ORDER NO. APD8810899

Service Manual

AUTO PRODUCTS

CQ-H03EG/EE

STEREO CASSETTE DECK / TUNER

SPECIFICATIONS*

Power Supply:	12V DC (11V~16V), Test Voltage 14.4V, Negative Ground
Tone Controls:	Bass; ± 10 dB at 100 Hz Treble; ± 10 dB at 10 kHz
Loudness Control:	+ 8 dB at 100 Hz + 6 dB at 10 kHz
Current Consumption:	Less than 1.5 A (at 0.5W)
Power Max. Output:	2 x 8W
Power Output:	2 x 5W
Speaker Impedance:	4~8Ω

AM Radio

MW

Frequency Range:	531 kHz~1,602 kHz
Usable Sensitivity:	30 dB (S/N 20dB)

LW

Frequency Range:	153 kHz~280 kHz
Usable Sensitivity:	30 dB (S/N 20dB)

Pre-Amplifier

Output Voltage:	550mv (Ref. Level;0dB)

FM Stereo Radio

Frequency Range:	87.5 MHz~108 MHz
Usable Sensitivity:	6 dB/μV (S/N 30dB)
Stereo Separation:	35 dB (at 1 kHz)

Tape Player

Reproduction System:	4-Track, 2-Program Stereo
Tape Speed:	4.75 cm/sec.
Fast Forward Time:	Less than 180 sec. (C-60)
Rewind Time:	Less than 180 sec. (C-60)
Frequency Response:	35 Hz to 12,500 Hz (Normal)
Wow and Flutter:	0.12% (WRMS)
Signal to Noise Ratio:	52 dB
Dimensions**(Main Unit)	:178mm x 150mm x 50mm
(Bracket):	182mm x 168mm x 52mm
Weight**(Main Unit):	1.4kg
(Bracket):	0.35kg

* Specifications and the design are subject to possible modification without notice due to improvements.
** Dimensions and Weight shown are approximate.
*** C-120 tape is not recommended to use.

Panasonic

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Q-H03EG/EE

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FUSE

Be sure to use a fuse of specified rating (3A) when replacing a blown fuse.
Fuses rated at higher capacity, use of any substiture, or connection without a fuse may result in a fire hazard or damage to the unit.

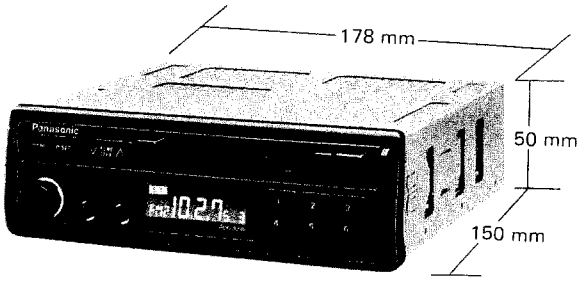
FEATURES

- Equipped with Double functions.
- Backed by the PLL (Phase-locked loop) synthesizer system.
- "One touch" presetting possible for LW station, 6MW stations, 12 FM stations.
- ASC (Automatic Separation Control) Circuit.
- ATC (Automatic Tone Control) Circuit.
- With theft protection unit by "Quick release bracket".

WARNING!

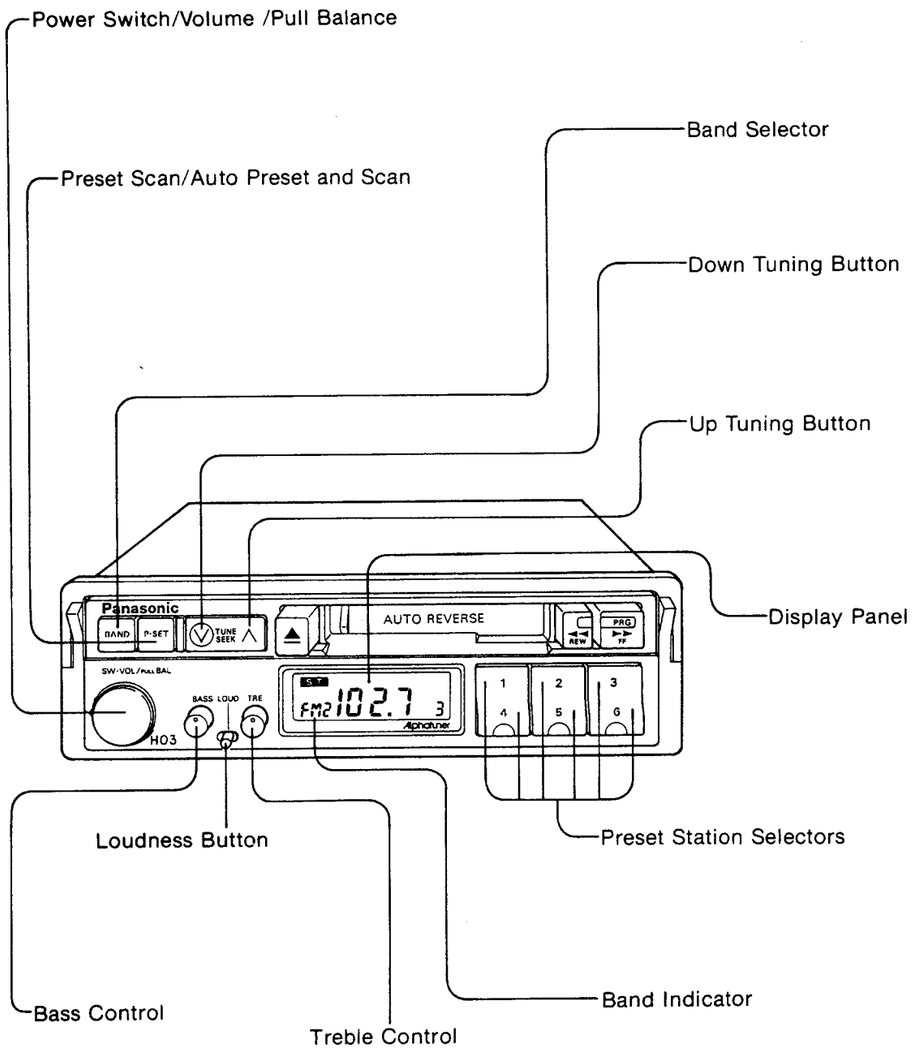
Lithium batteries. Explosion danger.
Change of batteries must only be done by qualified personnel and as described in the service manual.
Furthermore, that the batteries must only be changed with batteries of the same manufacture and type.

DIMENSIONS

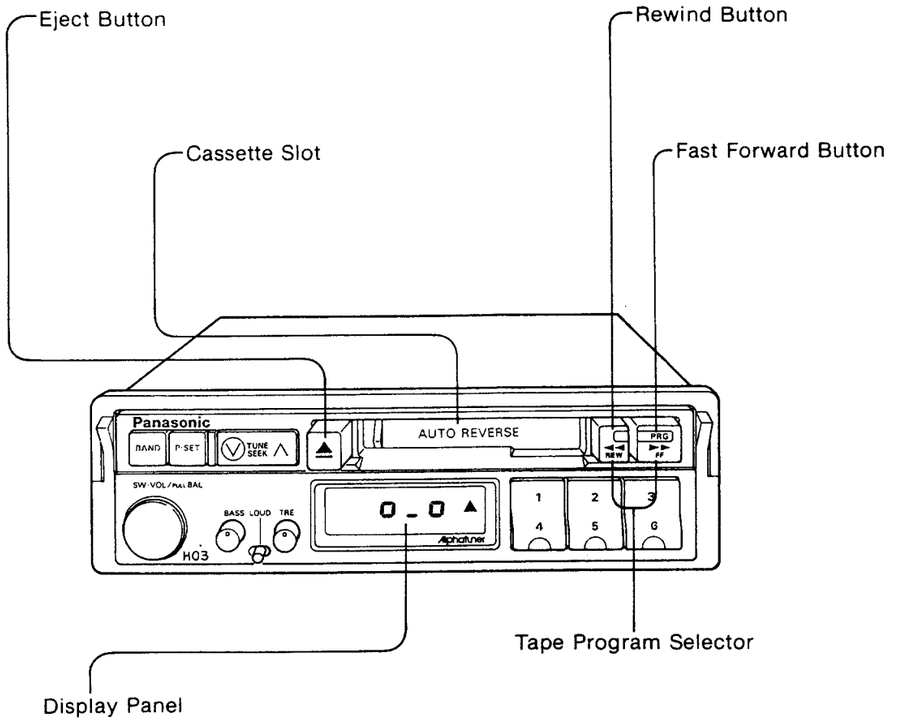


OPERATION OF CONTROLS

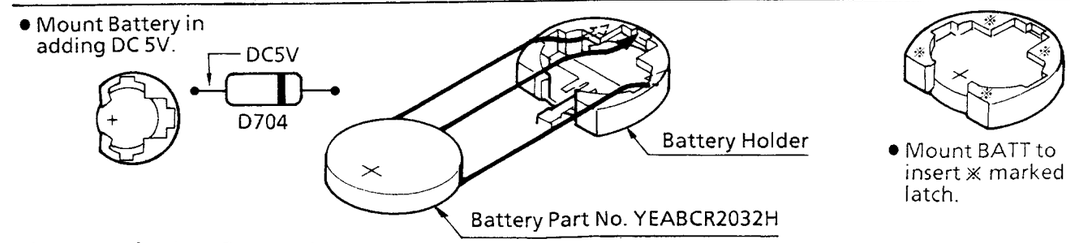
Main and Radio Controls



Cassette Controls

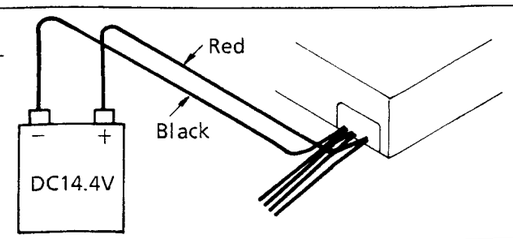


SET UP THE BATTERY



In case of using Connector

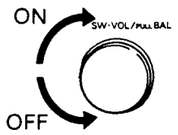
Use the connector YEAJ02447 Connect 14.4V to Red-lead and Black-lead to Ground, mount BATT in condition of power ON. (Set POW·SW ON)



General Operation

The General Operation should be observed at all times when operating radio or tape.

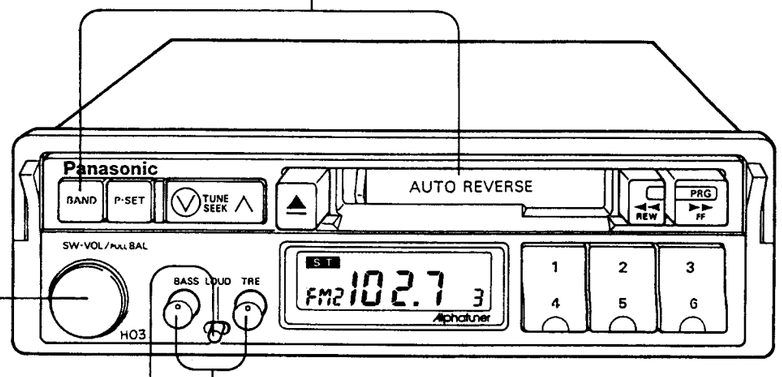
1. Power Switch (SW)



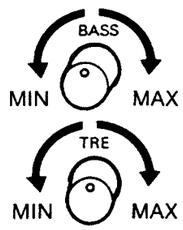
After every use, switch the power off.

2. Select operating mode.

RADIO: See page 5.
TAPE: See page 7.



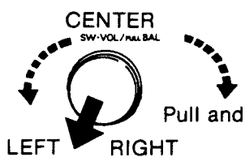
4. Bass / Treble Controls (BASS / TRE)



3. ● Volume Control (VOL)

After every use, set the volume to minimum position.

● Balance Control (PULL BAL)

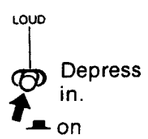


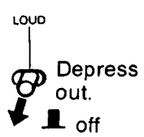
Left/Right Speakers balance

Pull and turn.

5. Loudness Button (LOUD)

Switch on when listening at low volume.





To Listen to the Radio

▶ Did you read the "General Operation" on page 4?

1. Turn on power switch.

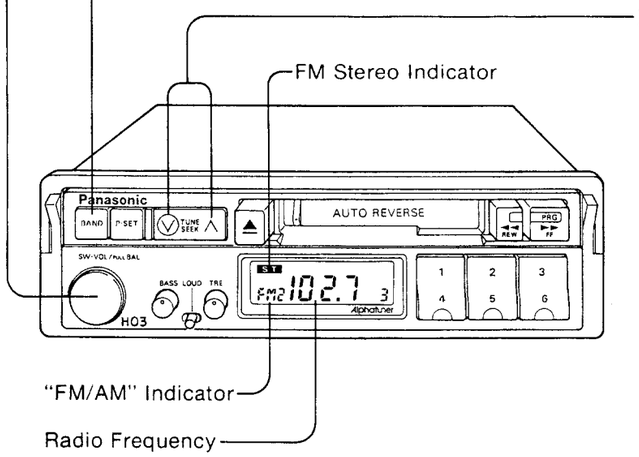
2. Press BAND to select FM (FM1/ FM2) or AM (LW/ MW)

3. ● Manual Tuning:

Press ⌃ for tuning to higher frequency.
Press ⌄ for tuning to lower frequency.

● Seek Tuning:

Press ⌃ or ⌄ and hold it for more than half a second. Seek tuning will operate and will stop on the next station.
Repeat this operation again and so on until the desired station is reached.

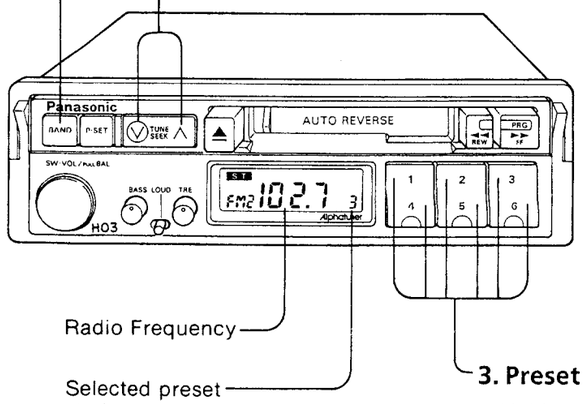


■To Set the Preset Station

Six AM and twelve FM stations can be preset in the electronic memory circuit.

1. Select radio band.

2. Tune in the station either by manual or seek tuning.



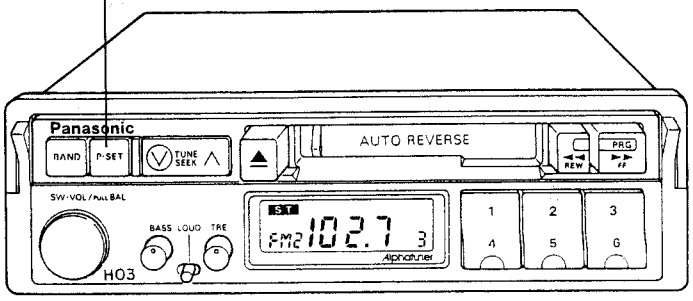
3. Preset Station Selectors (1~6)

Hold one of the preset station selectors in for about 2 sec.. (The radio frequency display will blink once when memory is activated.)

The memory has now been set.
Repeat the same methods for the remaining selectors.

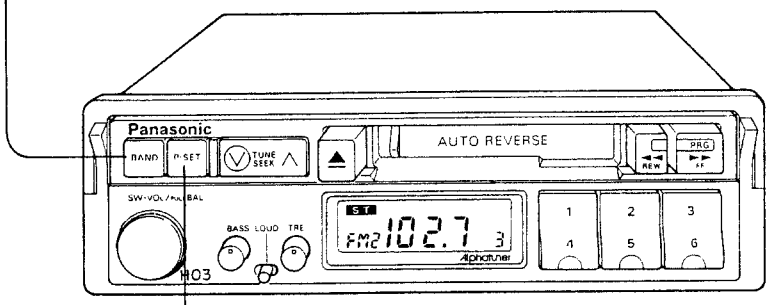
■To Scan Preset Station

Preset Scan Button (P. SET)
Press the "P. SET" button to locate the preset radio stations entered into the preset station selectors (1~6). Each preset station is scanned for about 5 seconds and the radio frequency is blinking on the display panel. When reaching the desired preset station, press the "P. SET" button again, or press the preset station selector itself.



■Auto Preste and Scan

1. Band Selector (BAND)
Press BAND and select FM (FM1/FM2).



2. Auto Preset and Scan Button (P.SET)

- Press the "P. SET" button and hold it for more than 2 seconds. The radio will automatically search the first six strongest signal stations along the frequency band and register into the six preset station selectors (1~6) of "FM2" if in FM mode. Scan will immediately follow from preset number 1 as soon as the auto preset is completed. However, the scanning is limited to "FM2" only.
- When reaching the desired station, press "P. SET" button again, or press the preset station selector itself.

NOTE: The previously preset stations (1~6) at "FM2" will be erased, and instead, the auto preset stations will be memorized.

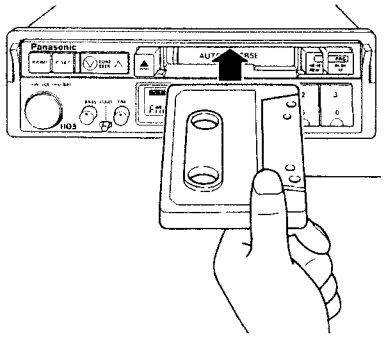
To Play Tape

▶Did you read the "General Operation" on page 4?

1. Turn on power switch.

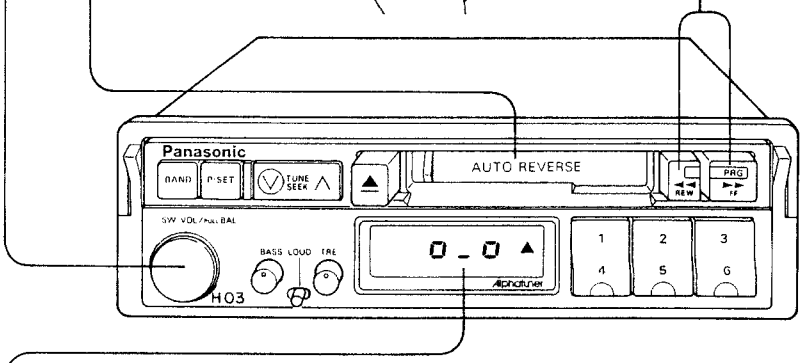
2. Cassette Slot

Insert cassette with exposed tape side facing to the right. Push inward until the mechanism captures the cassette. Playback starts automatically when the cassette tape is inserted.



3. Tape Program Selector (PRG)

Depress both buttons (◄◄ ►►) fully to select the desired direction of tape play as indicated by the tape direction indicator.
Otherwise, tape direction indicator changes automatically when the tape reaches its end (Auto-Reverse System).



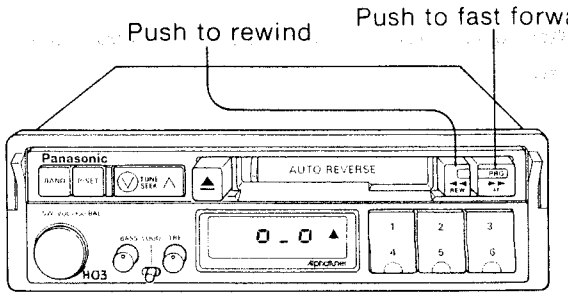
Tape Direction Indicator

The tape direction indicator (o_o▲ or o-o▼) appears on the display panel during tape playback.

o_o▲ : Indicates the top side of the cassette is being played.

o-o▼ : Indicates the bottom side of the cassette is being played.

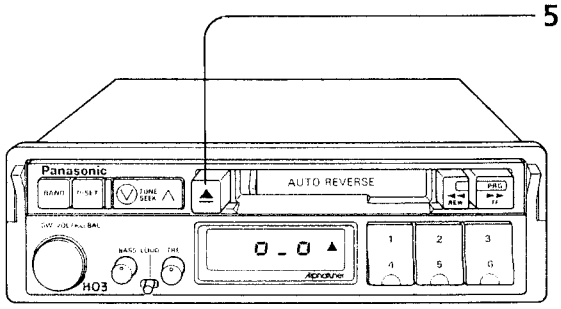
4. Fast Forward / Rewind Buttons (◄◄ ►►)



If any of these buttons (fast forward or rewind) is pushed, the display panel will show the tape direction indicator flashing.

NOTE: To stop fast forward or rewind, simply release the "locked" button by pushing the other (opposite) button half-way.

5. Eject Button (▲)



To stop playing, push this button. The cassette will pop out for removal, and the radio will be heard again.

NOTES:

1. If the cassette is not manually ejected, "Auto-Reverse" will operate and playback continues on the other side of the tape.
2. The cassette should always be removed from the cassette slot when not in use.

Notes on Cassette Tape

To obtain optimum performance from your unit, these helpful hints should be remembered:

- We strongly recommend not using tapes longer than C-90 (90 minutes), unless absolutely necessary.
- Before use, check the cassette for tape slack (such as shown by arrow 1). Use a pencil, or similar object, to remove the slack by rotating the hub, as shown by arrow 2. (Fig. 1)

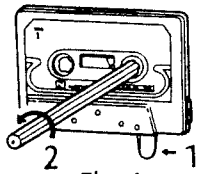


Fig. 1

- In the event that the cassette label starts to peel off, be sure to take it off completely, or repaste it before inserting the cassette into the unit.
- Avoid touching or soiling the tape surfaces.
- Keep the cassette away from magnetized objects (motor, speaker, transformer, etc.).
- Avoid placing the cassette in direct sunlight or near a heated object. Heat has an adverse effect on the tape.
- When storing the cassette, keep it in a case, with the openings (exposed tape side) facing down, in order to prevent dust from entering the cassette.
- Keep the cassette in a cool, dry place.

Maintenance

Tape Head Cleaning

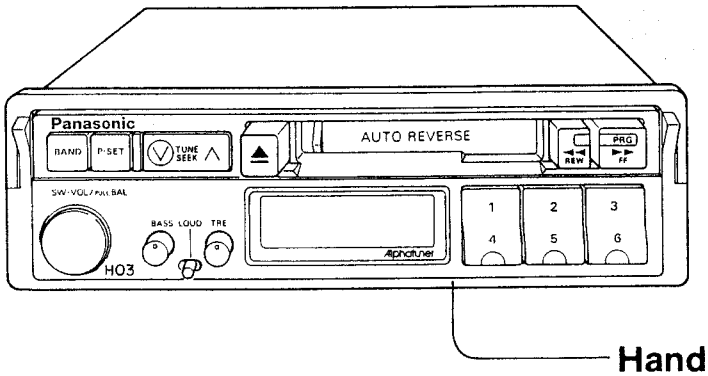
To obtain optimum performance, clean the tape head as often as necessary, depending upon frequency of use and tape cleanliness.
The tape head in the cassette car stereo mechanism can accumulate dust and tape residue, causing poor or wavering sound.
To clean the tape head, use a commercially available head cleaning tape.

Outside Cleaning

To clean the outside of the set (escutcheon and chassis), use a soft cloth to wipe the surface.
Do not use benzine, thinner, or any other type of solvent.

THEFT SAFETY DEVICE

CAUTION: Before pulling the unit out of its bracket make sure to switch off the unit.



Handle:

It is used for pulling the unit from its bracket and carrying it out anywhere. DO NOT PULL THE HANDLE AND REMOVE THE UNIT BEFORE SWITCHING OFF THE UNIT.

●How to Remove and Install the Unit

REMOVAL:

1. Switch off the power.
2. Push the safety lock to release the unit from the bracket.
3. Lift the handle. (Fig. 2, ❶)
4. Remove the unit from its bracket by pulling the handle firmly. (Fig. 2, ❷)

INSTALLATION:

Insert and push the main unit into its bracket until the back of escutcheon reaches the bracket. The unit will be locked in automatically. A "click" sound can be heard when the safety lock is engaged.

NOTES:

1. Before removing the unit out of its bracket, make sure to switch off the unit.
2. It is very dangerous to operate the unit with the safety lock is released. If there is such an occurrence, replace the handle back to its original down position or remove the unit and replace it back firmly to its bracket.
3. After operating the unit for a long period of time, it will become hot. Please be aware of this and pay careful attention.
4. The unit has no water-proof capability. Therefore, do not expose the unit to water, or excessive moisture.
5. Do not abuse the unit by shocking, dropping, or swing the unit while carrying it with the handle.
6. For safety reasons, do not remove the unit from its bracket or preset any radio function while driving your car.
7. The cassette should always be removed from the cassette slot when not in use.

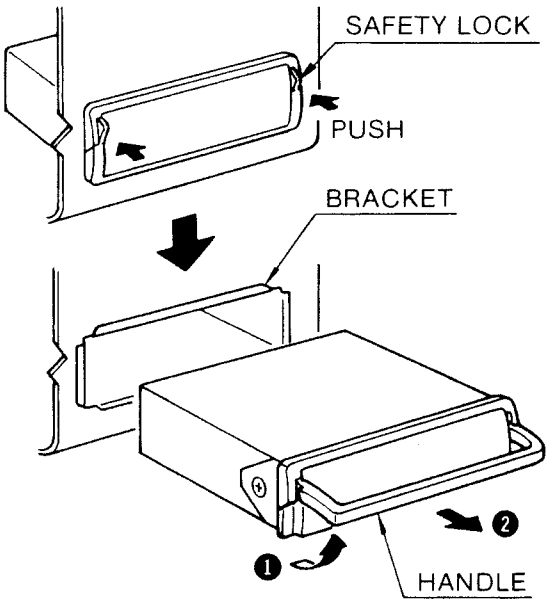
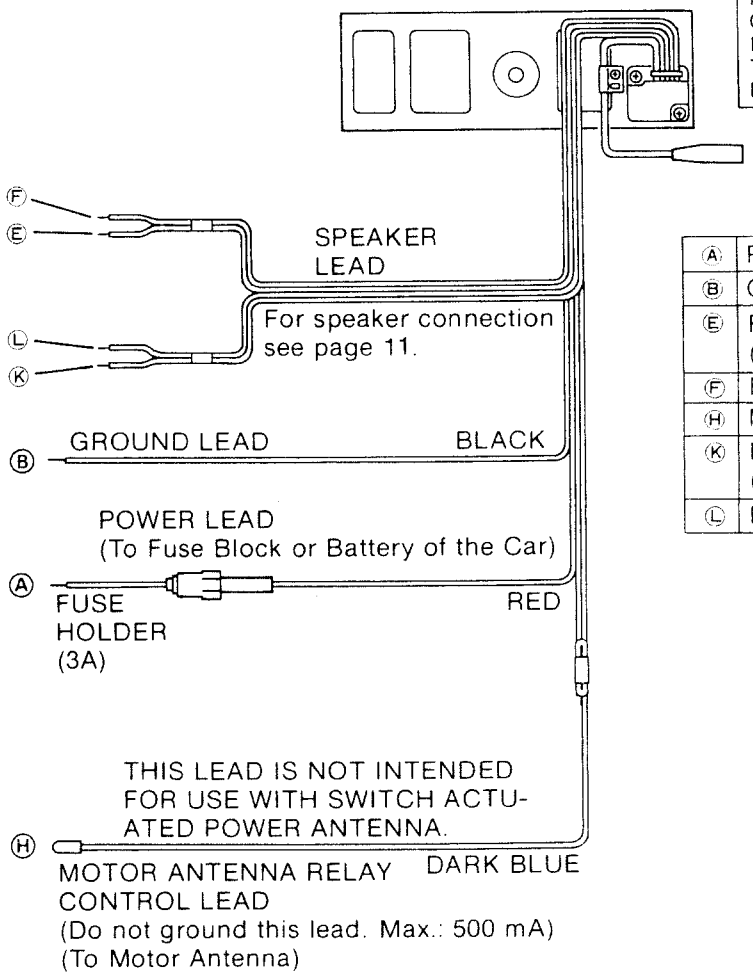


Fig. 2

ELECTRICAL CONNECTION

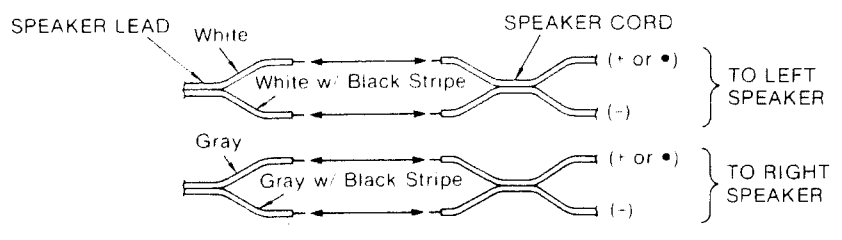
CAUTION Although the color of all negative speaker wires are with BLACK stripes they are not connected at the same common point internally.
They work respectively with their positive pair, and the pairs of speaker wires are adhered together. Therefore, do not split the speaker wire pairs beyond the manufacture's setting unless you can recognize their positions.

IF THE RADIO RECEPTION IS NOT OBTAINED SATISFACTORILY, THERE IS A POSSIBILITY THAT THE ANTENNA CONNECTION WAS NOT DONE PROPERLY. CHECK THE ANTENNA CONNECTION AND ITS INSTALLATION **BEFORE BRINGING THE UNIT TO A REPAIR SHOP.**



Ⓐ	POWER LEAD (Red)
Ⓑ	GROUND LEAD (Black)
Ⓔ	FRONT SPEAKER, Left (-) (White w/ Black Stripe)
Ⓕ	FRONT SPEAKER, Left (+)(White)
Ⓗ	MOTOR ANTENNA (Dark Blue)
Ⓚ	FRONT SPEAKER, Right (-) (Gray w/ Black Stripe)
Ⓛ	FRONT SPEAKER, Right (+)(Gray)

CAUTION:
BE SURE TO PERFORM ALL WIRING CONNECTIONS CORRECTLY TO PREVENT SHORT-CIRCUIT.



BASIC NOISE SUPPRETION METHODS

Proper grounding is one of the most important items.
The contact of the tapping screws only is not sufficient.
Remove the paint under the holder of the capacitor and apply contact grease. The noise suppression can then be performed as follows:

1. Ignition Coil (Fig. 3)

The ignition coil has to be provided with a 2.2μF parallel capacitor at the terminal (+). If the ignition coil is attached to the car body (e.g. cowling), the capacitor has to be connected to the engine block by means of a short grounding band.

2. Alternator (Fig. 4)

Connect a 2.2μF parallel capacitor to the terminal "B+". The attachment lug of the capacitor should be connected with the alternator case.

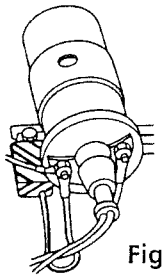


Fig. 3

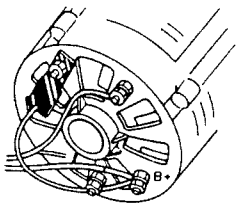


Fig. 4

3. Engine Hood (Fig. 5)

A grounding band has to be connected between the engine hood and the car body. Remove the paint under the gounding band completely. The grounding band is used to avoid interferences (engine noise) that are transferred from the engine compartment via the antenna into the radio.

4. Distributor (Fig. 6)

Put a noise-suppression resistor (1 to 10kΩ) between the center jack of the distributor and its plug.

If the above basic noise suppression methods are performed correctly, but still interferences are audible, please contact your nearest service station.

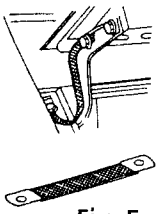


Fig. 5

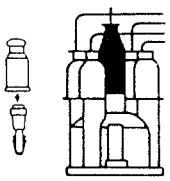


Fig 6

INSTALLATION HINTS

Please observe the following hints, in order to obtain fine and clear reception.

Antenna:

The antenna should be mounted at the side of the car opposite to the ignition coil. The antenna holder must be properly grounded, that is the inside of the fender around the hole for the antenna has to be free of paint and anti-corrosive. After cleaning the inside of the fender around above hole apply water-resistant contact spray or contact grease. The antenna should be installed with some inclination (if possible), in order to obtain fine FM reception.

NOTE: For installation to cars equipped with trip or navigational computer, all electronic memory settings previously registered on the computer would fade out when the battery terminal is disconnected. For this type of car, battery could not be disconnected (unless necessary) thus, wiring connection and installation of this unit should be carefully done and short-circuit should be avoided.

Radio:

The unit must have good contact with the car body. If required, attach a ground band or a ground wire (4 to 6mm^2) between the case of the unit and the car body. The screws should not be mounted into the set for more than 8mm, because otherwise a short circuit may occur and the car radio may be damaged. The power supply should come from the proper terminal of the ignition switch (refer to operating instructions of the car) or from a direct plus terminal (fuse block, cigarette lighter).

NOTE: The antenna trimmer adjustment is not necessary for this unit.

INSTALLATION INSTRUCTIONS

NOTES:
- Before installation check the radio operation with antenna and speakers.
- Disconnect the cable from the negative (-) battery terminal.

UNIT IN-DASH INSTALLATION

Instllation Opening

In-dash installation can be done if the car's dashboard has an opening for this unit as shown in Fig. 7. The car's dashboard should have a thickness of 4.5 mm ~ 6 mm in order to make the installation of the unit.

To Remove the Unit from the Quick Release Bracket

The unit is inserted and locked in the quick release bracket at the factory. The unit can be released by following the steps below:

1. Switch off the power.
2. Push the safety lock to release the unit from the bracket.
3. Lift the handle. (Fig. 8, ❶)
4. Remove the unit from its bracket by pulling the handle firmly. (Fig. 8, ❷)

Installation Procedures

1. Insert the quick release bracket into the car's dashboard and bend the mounting springs correspondingly by means of a screwdriver, as shown in Fig. 8
2. Before final mounting the quick release bracket to the car's dashboard, read "To Secure the Rear of the Quick Release Bracket" which is explained at below and check whether the rear of the unit is properly secured to the fire wall of car.
   Also check the electrical connections by referring to this installation instructions. Mount the quick release bracket to the car's dashboard as shown in Fig. 8.
3. After installation reconnect the negative (-) battery terminal.
4. Now insert the unit into the quick release bracket.

To Secure the Rear of the Quick Release Bracket.

■Using the Rear Support Strap

(See Fig. 9)

Fix one end of the rear support strap to the rear of the quick release bracket, and the other end to the Fire Wall of Car, or some other solid area.

Fig. 7

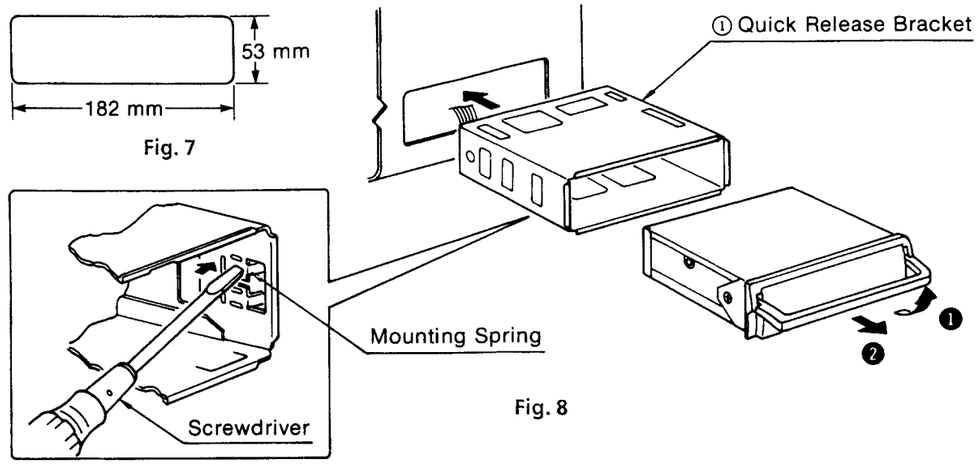


Fig. 8

Installation Parts List

Illust No.	Description	Q'ty
①	Quick Release Bracket	1
②	Rear Support Strap	1
③	Hex. Bolt (5mmϕ x 25mm)	1
④	Hex. Nut (5mmϕ)	2
⑤	Spring Washer (5mmϕ)	2
⑥	Plain Washer (5mmϕ)	2
⑦	Toothed Lock Washer (5mmϕ)	1
⑧	Mounting Bolt	1

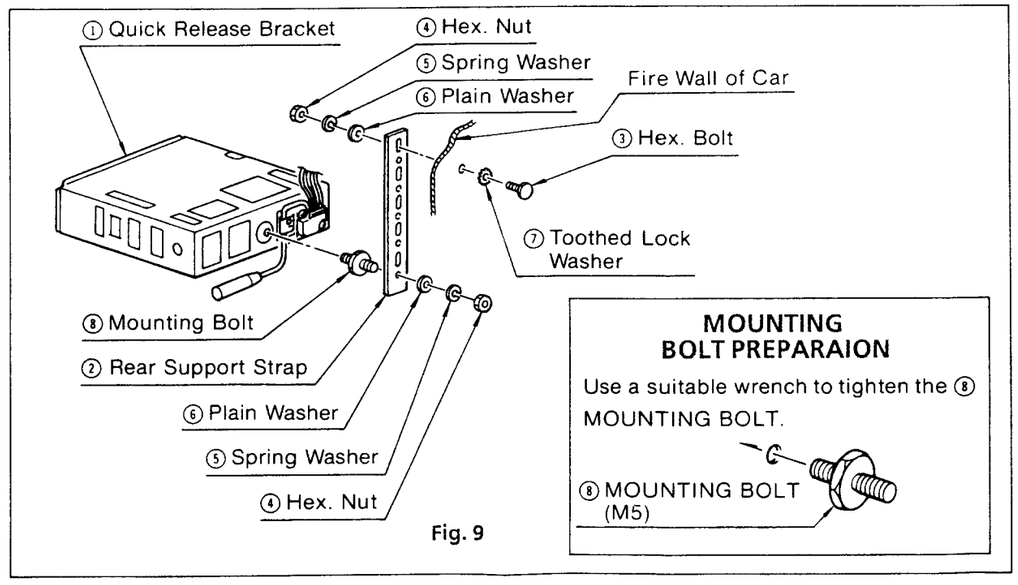


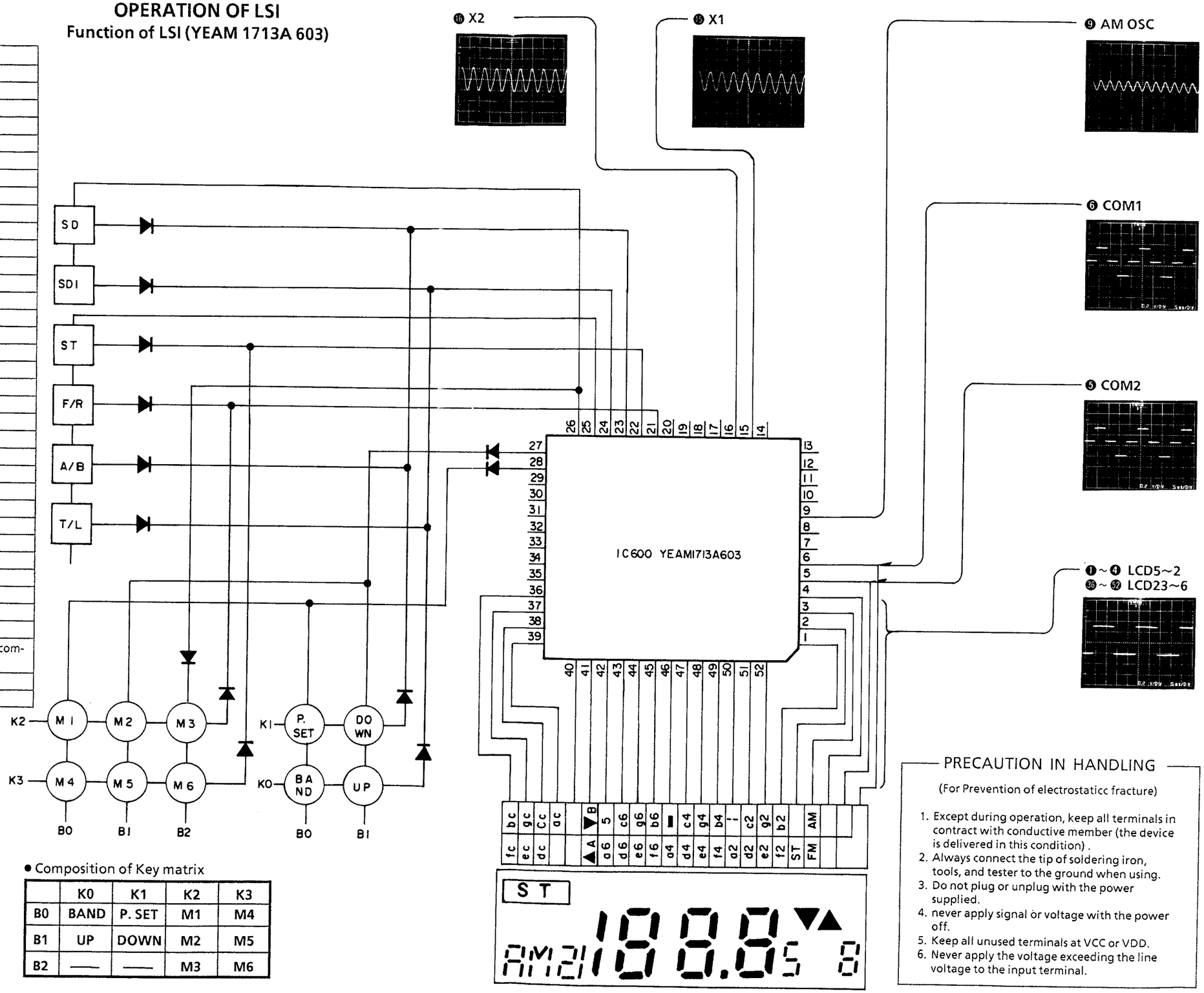
Fig. 9

OPERATION OF LSI

Function of LSI (YEAM 1713A 603)

● Name of terminals description of connection

Terminal	Port	Description
1	LCD2	LCD signal output
3	LCD3	LCD signal output
4	LCD5	LCD signal output
5	COM 2	LCD signal output
6	COM 1	LCD signal output
7	VDD	Power supply (5V)
8	FM	FM local signal input
9	AM	AM local signal input
10	GND	Ground
11	E01	Phase detect output
12	E02	Phase detect output
13	CE	Chip enable input
14	NC	———
15	X1	4.5MHz crystal
16	X2	4.5MHz crystal
17	PORT A3	Dolby output
18	PORT A2	Analog SW Control
19	PORT A1	BK IN
20	PORT A0	Key return signal
21	PORT K3	Key matrix input
22	PORT K2	Key matrix input
23	PORT K1	Key matrix input
24	PORT K0	Key matrix input
25	PORT B3	Key return signal
26	PORT B2	Clock output
27	PORT B1	Key return signal
28	PORT B0	DATA output
29	PORT C3	AM / FM power selector
30	PORT C2	SSC
31	PORT C1	Mute output
32	FM IF	FM IF countor output
33	VDD	Power Supply (+ 5V)
34	AM IF	AM IF counter input
35	LCD GND	Bias for LCD temperature compensation
36~40	LCD23~19	LCD signal output
42~52	LCD16~6	LCD signal output



● These waveforms are measured by using ten times (× 10) probe.

● Composition of Key matrix

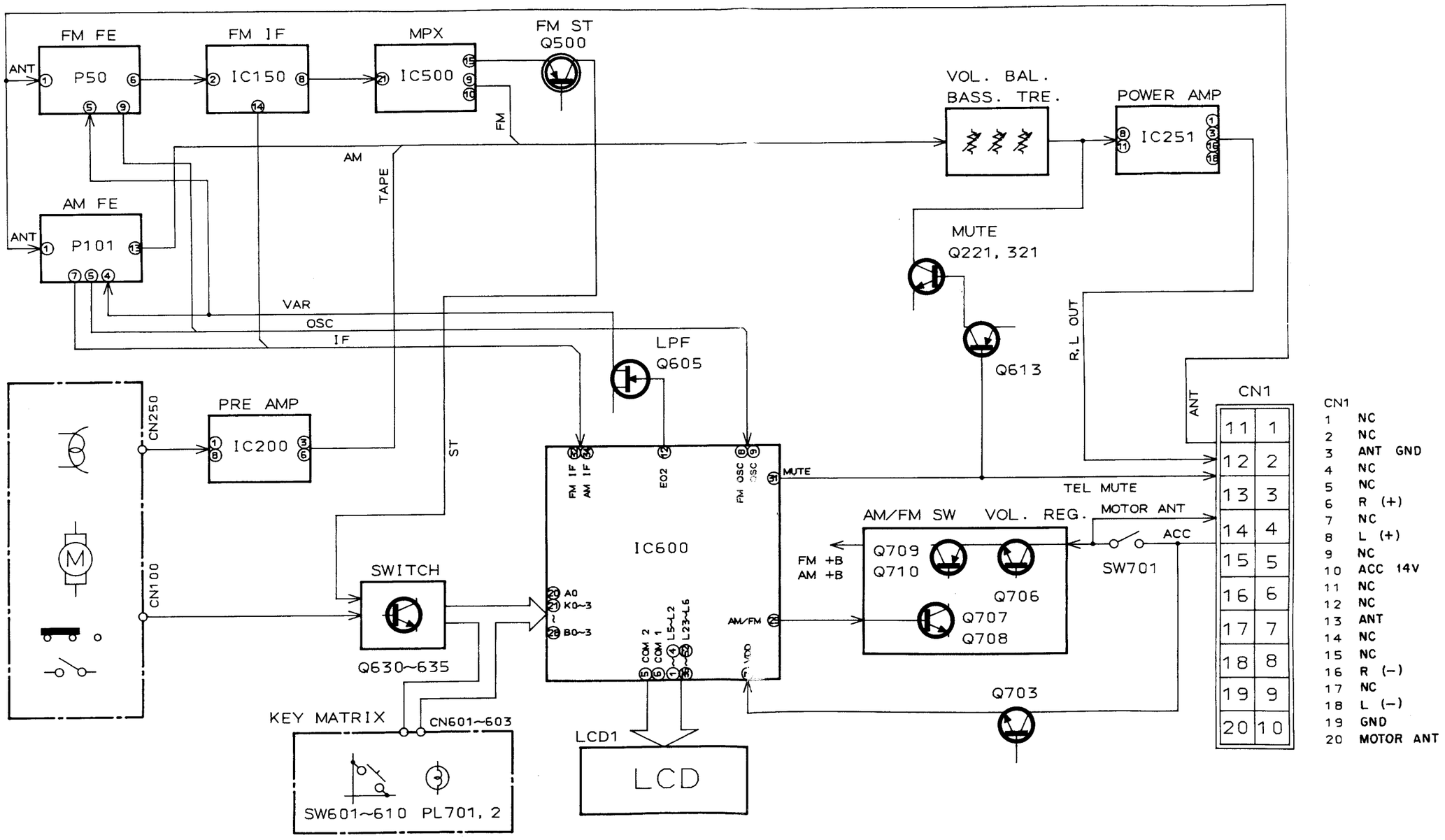
	K0	K1	K2	K3
B0	BAND	P. SET	M1	M4
B1	UP	DOWN	M2	M5
B2	——	——	M3	M6

PRECAUTION IN HANDLING

(For Prevention of electrostaticc fracture)

1. Except during operation, keep all terminals in contract with conductive member (the device is delivered in this condition) .
2. Always connect the tip of soldering iron, tools, and tester to the ground when using.
3. Do not plug or unplug with the power supplied.
4. never apply signal or voltage with the power off.
5. Keep all unused terminals at VCC or VDD.
6. Never apply the voltage exceeding the line voltage to the input terminal.

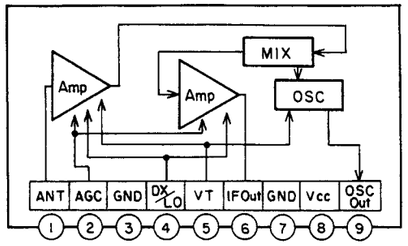
BLOCK DIAGRAM MODELS CQ-H03EG/EE



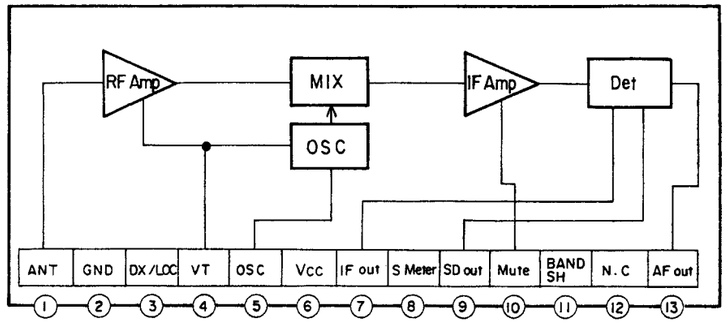
CN1	
1	NC
2	NC
3	ANT GND
4	NC
5	NC
6	R (+)
7	NC
8	L (+)
9	NC
10	ACC 14V
11	NC
12	NC
13	ANT
14	NC
15	NC
16	R (−)
17	NC
18	L (−)
19	GND
20	MOTOR ANT

PACKAGE AND IC BLOCK DIAGRAM

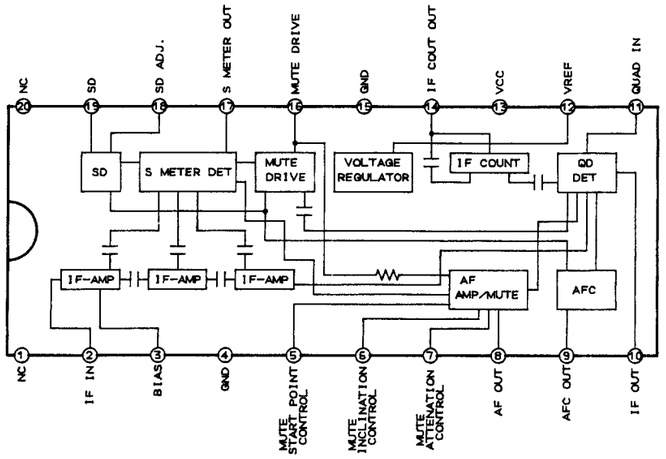
● YEAU03SUE02 (P50)



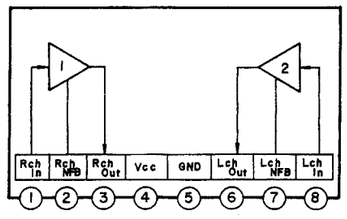
● YEAU03SKM03 (P101)



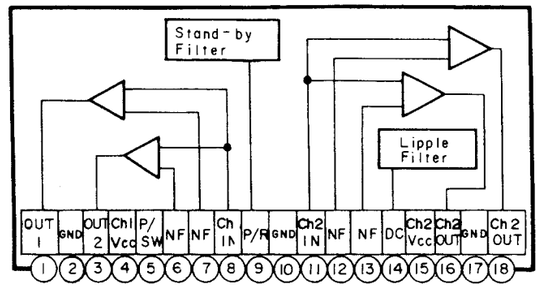
● YEAMLA1145M (IC150)



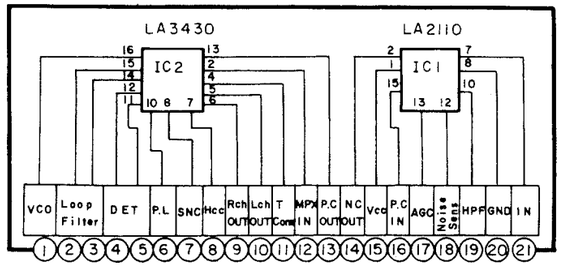
● YEAMLA3161 (IC200)



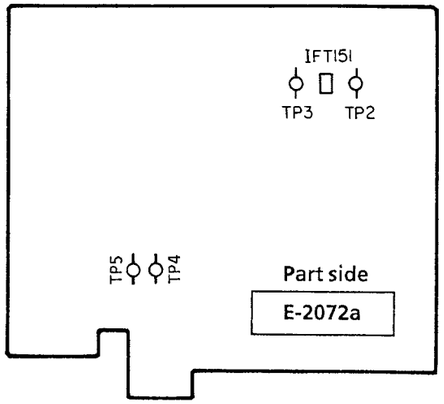
●YEAMLA4700M (IC251)

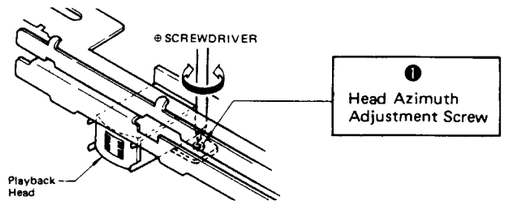


● YEAMSTK3400M (IC500)

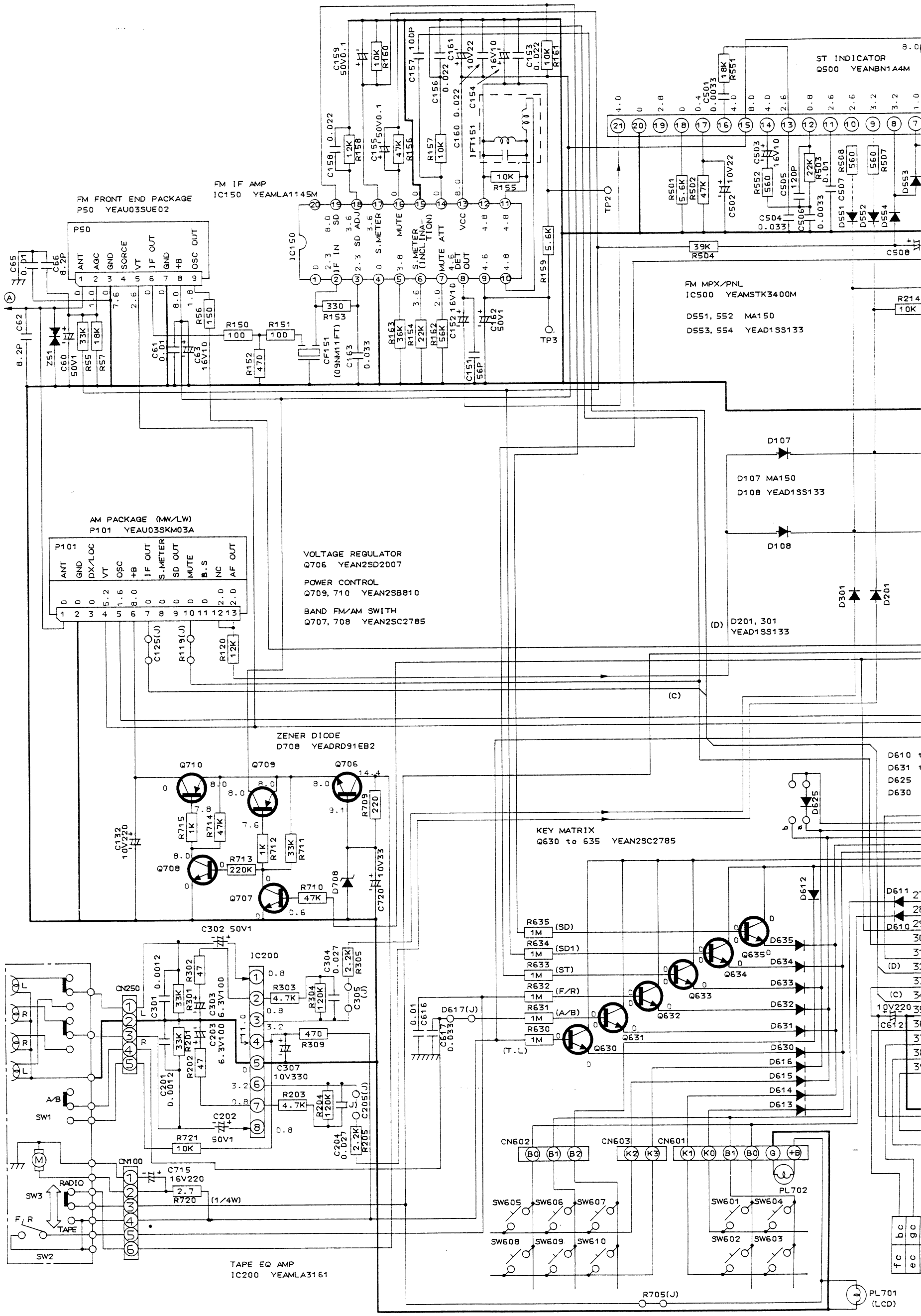


ALIGNMENT POINTS

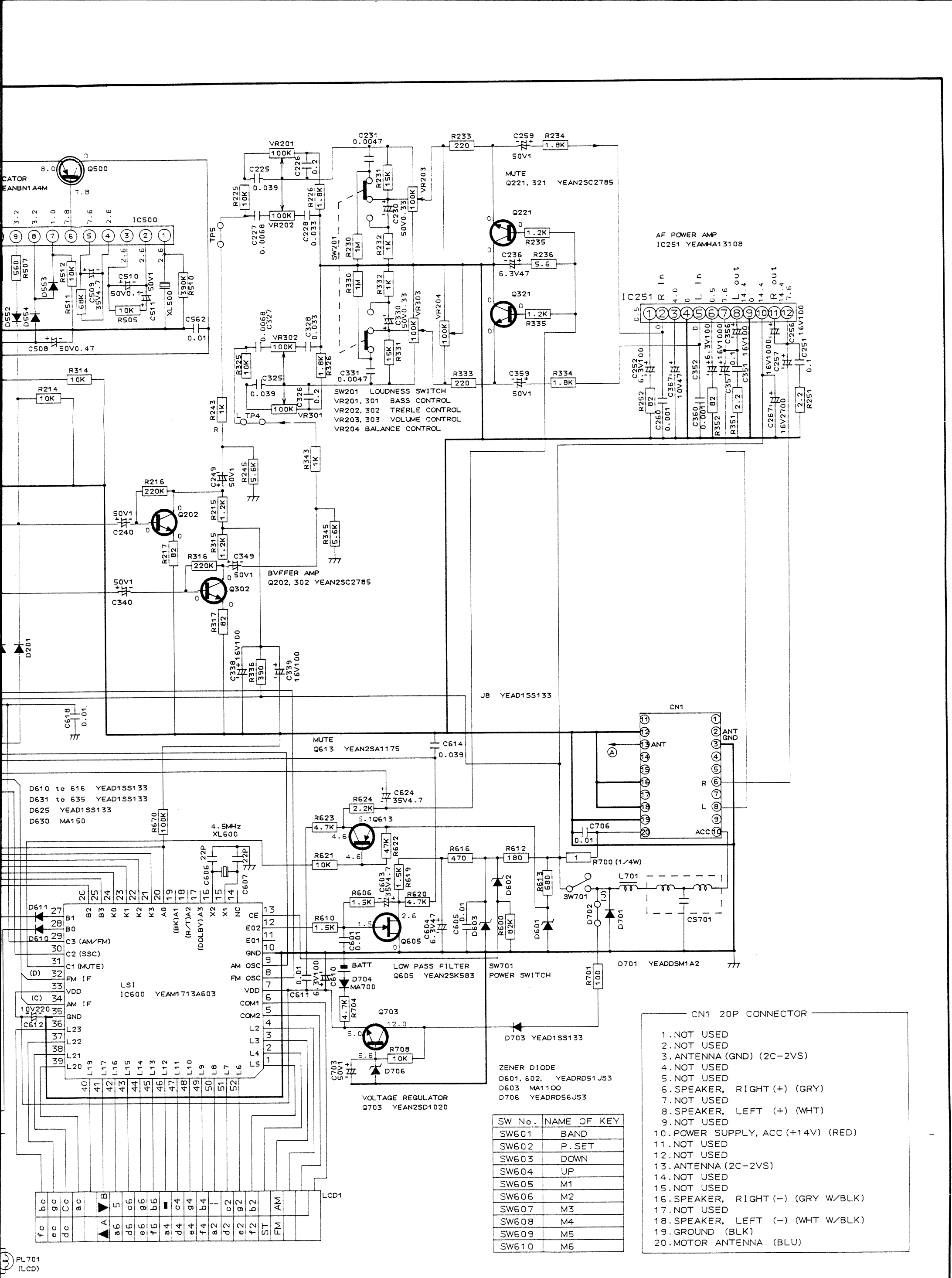




SCHEMATIC DIAGRAM MODELS CQ-H03EG/EE



Oct.,1988



SW No.	NAME OF KEY
SW601	BAND
SW602	P.SET
SW603	DOWN
SW604	UP
SW605	M1
SW606	M2
SW607	M3
SW608	M4
SW609	M5
SW610	M6

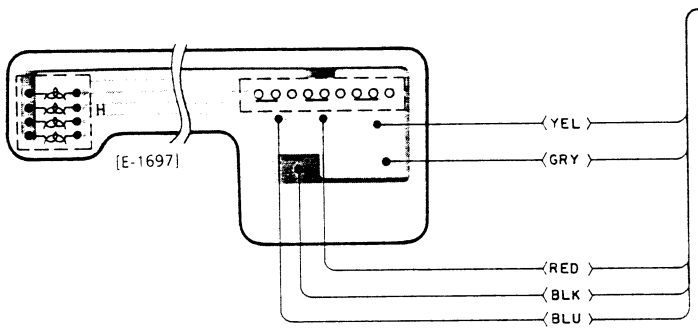
CN1 20P CONNECTOR

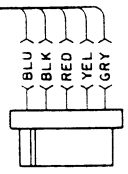
1. NOT USED
2. NOT USED
3. ANTENNA (GND) (2C-2VS)
4. NOT USED
5. NOT USED
6. SPEAKER, RIGHT (+) (GRY)
7. NOT USED
8. SPEAKER, LEFT (+) (WHT)
9. NOT USED
10. POWER SUPPLY, ACC (+14V) (RED)
11. NOT USED
12. NOT USED
13. ANTENNA (2C-2VS)
14. NOT USED
15. NOT USED
16. SPEAKER, RIGHT (-) (GRY W/BLK)
17. NOT USED
18. SPEAKER, LEFT (-) (WHT W/BLK)
19. GROUND (BLK)
20. MOTOR ANTENNA (BLU)

WIRING DIAGRAM MODELS CQ-H03EG/EE

CN1 20P Connector

1. Not Used	11.
2. Not Used	12.
3. Ground for Antenna	13.
4. Not Used	14.
5. Not Used	15.
6. Right Speaker (–)	16.
7. Not Used	17.
8. Left Speaker (–)	18.
9. Not Used	19.
10.Power Supply, +ACC	20.





Q221	
B	0V
C	0V
E	0V

Q321	
B	0V
C	0V
E	0V

Q707	
B	0.6V
C	0V
E	0V

IC200	
1	0.8V
2	0.8V
3	3.2V
4	11.0V
5	0V
6	3.2V
7	0.8V
8	0.8V

IC150			
1	0V	11	4.8V
2	2.3V	12	4.8V
3	2.3V	13	8.0V
4	0V	14	0V
5	3.8V	15	0V
6	3.6V	16	0V
7	2.0V	17	3.6V
8	4.6V	18	3.6V
9	4.6V	19	8.0V
10	4.8V	20	0V

IC500	
1	2.6V
2	2.6V
3	2.6V
4	2.6V
5	7.6V
6	7.8V
7	1.0V
8	3.2V
9	3.2V
10	2.6V
11	2.6V
12	0.8V
13	2.6V
14	4.0V
15	8.0V
16	4.0V
17	0.4V
18	0V
19	2.8V
20	0V
21	4.0V

IC251			
1	0.5V	7	7.6V
2	0V	8	14.4V
3	4.0V	9	0V
4	0V	10	14.4V
5	0V	11	14.4V
6	0.5V	12	7.6V

Q631	
B	0V
C	0V
E	0V

Q630	
B	0V
C	0V
E	0V

Q633	
B	0V
C	0V
E	0V

Q632	
B	0V
C	0V
E	0V

Q635	
B	0V
C	0V
E	0V

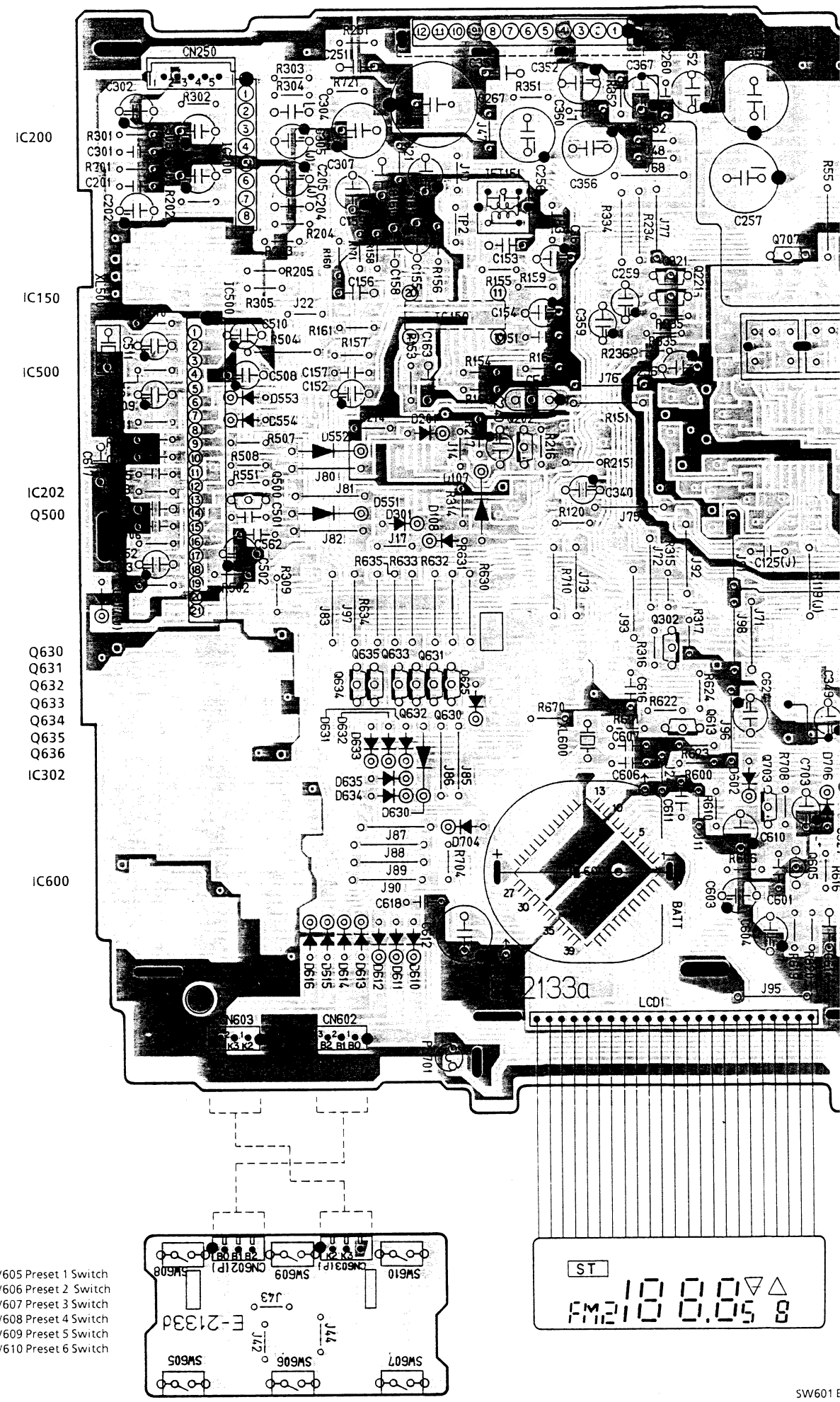
Q634	
B	0V
C	0V
E	0V

Q636	
B	0V
C	0V
E	0V

Q500	
B	7.8V
C	0V
E	8.0V

Q202	
B	0V
C	0V
E	0V

Q302	
B	0V
C	0V
E	0V

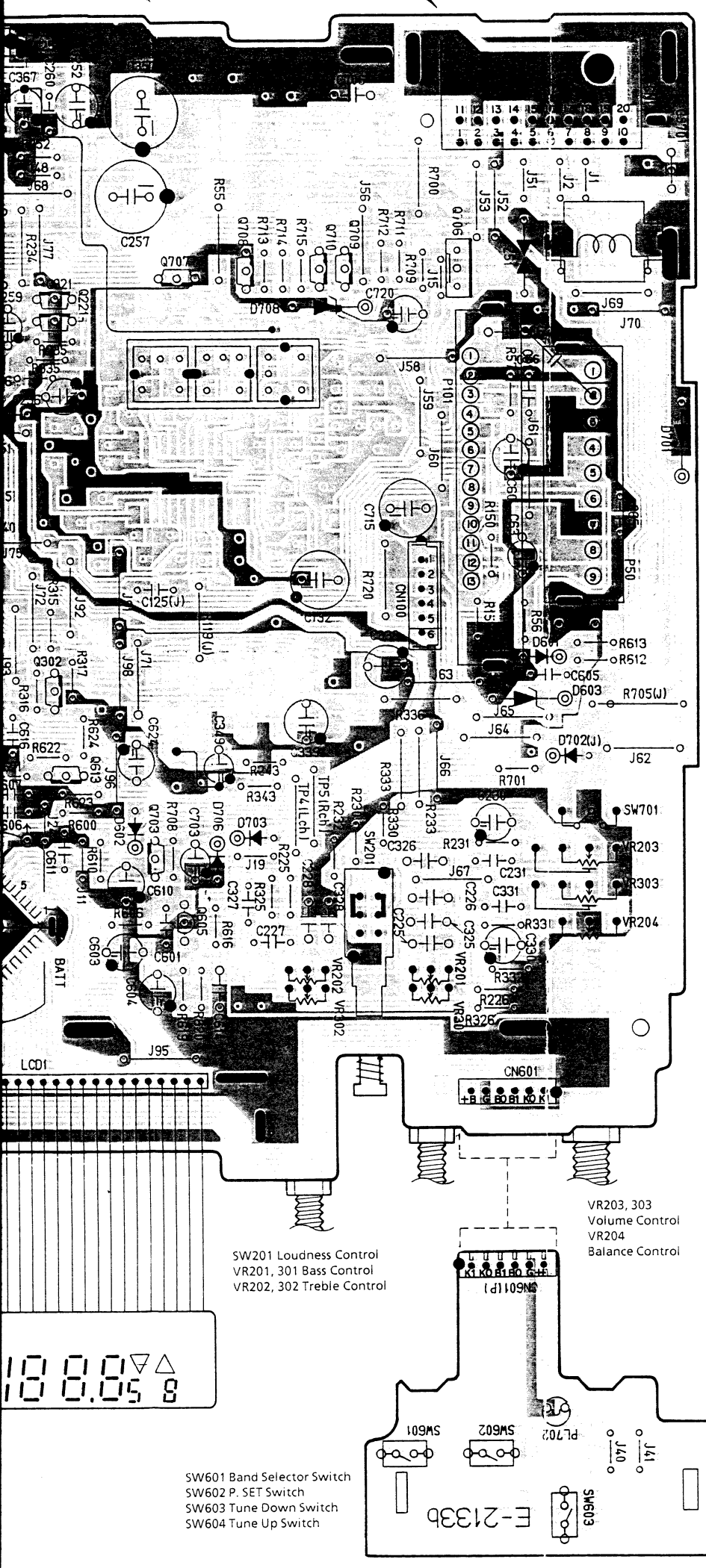


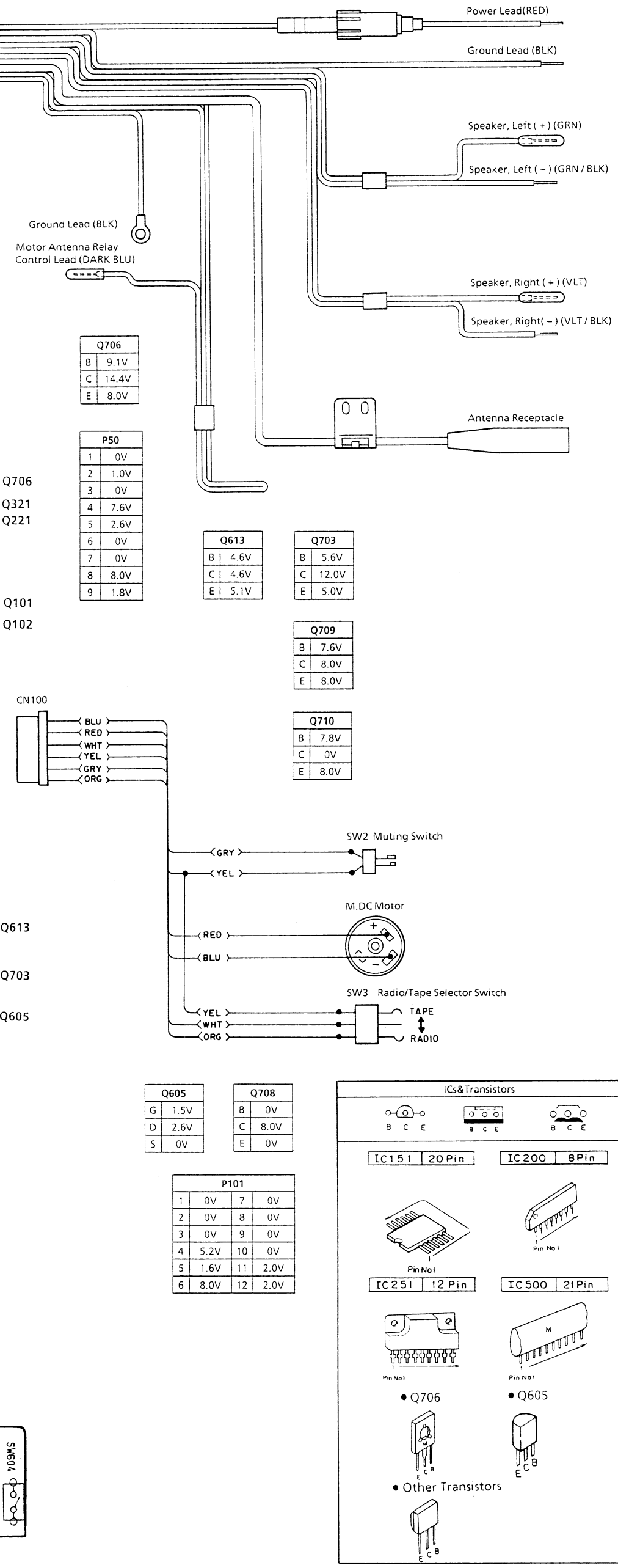
SW605 Preset 1 Switch
SW606 Preset 2 Switch
SW607 Preset 3 Switch
SW608 Preset 4 Switch
SW609 Preset 5 Switch
SW610 Preset 6 Switch

SW601 E
SW602 F
SW603 T
SW604 T

CN1 20P Connector

. Not Used	11. Not Used
. Not Used	12. Not Used
. Ground for Antenna	13. Antenna
. Not Used	14. Not Used
. Not Used	15. Not Used
. Right Speaker (–)	16. Right Speaker (+)
. Not Used	17. Not Used
. Left Speaker (–)	18. Left Speaker (+)
. Not Used	19. Ground
0.Power Supply, + ACC	20. Motor Antenna





Q706	
B	9.1V
C	14.4V
E	8.0V

P50	
1	0V
2	1.0V
3	0V
4	7.6V
5	2.6V
6	0V
7	0V
8	8.0V
9	1.8V

Q613	
B	4.6V
C	4.6V
E	5.1V

Q703	
B	5.6V
C	12.0V
E	5.0V

Q709	
B	7.6V
C	8.0V
E	8.0V

Q710	
B	7.8V
C	0V
E	8.0V

Q706
Q321
Q221
Q101
Q102
Q613
Q703
Q605

Q605	
G	1.5V
D	2.6V
S	0V

Q708	
B	0V
C	8.0V
E	0V

P101			
1	0V	7	0V
2	0V	8	0V
3	0V	9	0V
4	5.2V	10	0V
5	1.6V	11	2.0V
6	8.0V	12	2.0V

ICs&Transistors

ALIGNMENT INSTRUCTIONS

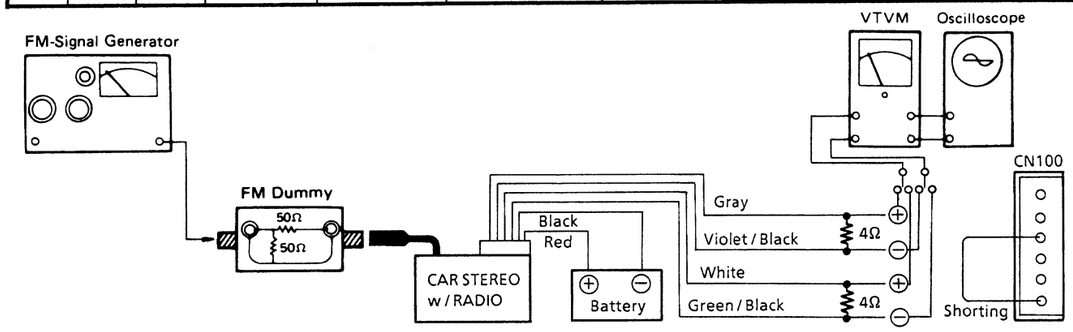
- Power Supply : DC 14.4V
- Output Impedance : 4Ω
- Output Power : 0.5W
- Loudness Switch : Off
- Volume Control : Set for 0.5W output
- Balance Control : Center
- Bass Control : Center
- Treble Control : Center

1. HEAD ADZIMUTH ALIGNMENT

Step	Alignment Item	Test Tape	Input Terminal	VTVM Connection	Adjust	Remarks
1	Head Adzimuth	TCC-153	Playback Head	Speaker Terminals	Head Adzimuth Adjustment Screw	•Adjust for maximum output.

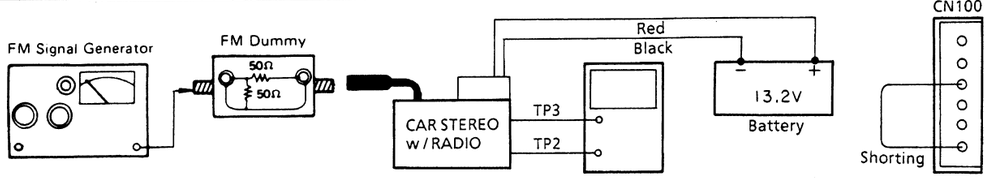
2. FM IF ALIGNMENT

Step	Align-ment Item	Band Select	Signal Generator	Input Terminal	Monitor Scope Connection	Display	Adjust	Remarks
2	FM IF	FM	98.0 MHz 9 dB/μV 400 Hz 30% Mod.	Antenna Receptacle	Gray | Violet / Black	98.0 MHz	VR203 303	•Short circuit the CN100 as follow. •Adjust for 1.5V
			non Mod.		White | Green / Black		IFT151	•Adjust for minimum noise level. •Use a resin stick.



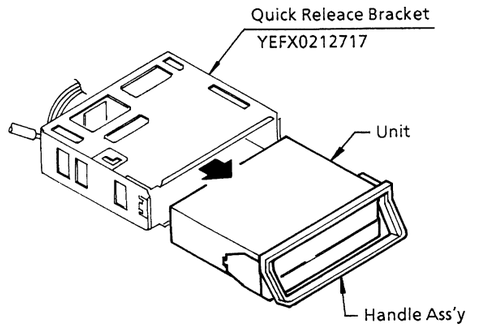
3. 0V ALIGNMENT

Step	Align-ment Item	Band Select	Signal Generator	Input Terminal	VTVM Connection	Display	Adjust	Remarks
3	Cont. Voltage	FM	98.0 MHz 20 dB/μV 400 Hz 30% Mod.	Antenna Receptacle	TP3 (+) | TP2 (−)	98.0 MHz	IFT151	•Adjust for 0 ± 0.5V •Use a resin stick.

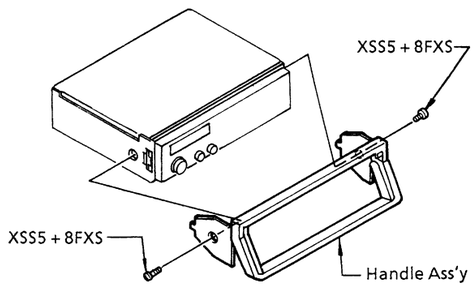


DISASSEMBLY INSTRUCTIONS

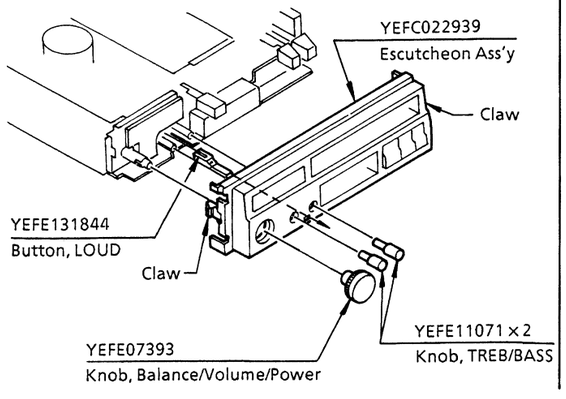
1. UNIT REMOVAL
- Bring up the handle Ass'y then the unit pull out from Quick Releace Bracket.



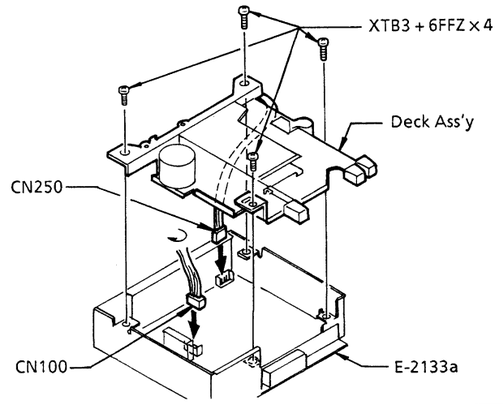
2. HANDLE ASS'Y REMOVAL
- Take out the two screws, then remove the handle ass'y from chassis



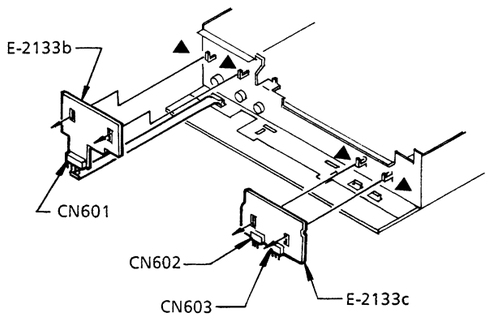
3. ESCUTCHEON ASS'Y REMOVAL
- Pull out the each knobs.
- Remove the escutcheon by pusing two claws on both side of the escutcheon.



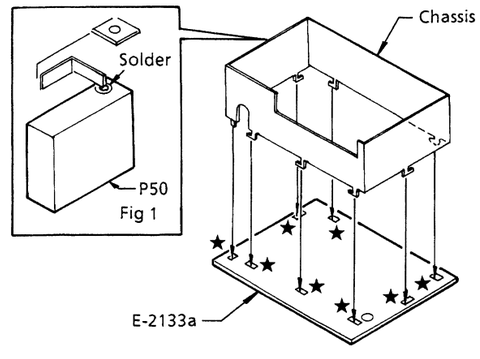
4. DECK ASS'Y REMOVAL
- Pull out the connectors CN100 and CN250.
- Take out the four screws .



5. SWITCH PCB (E-2133b, c) REMOVAL
- Melt the solder CN601, 602 and 603.
- Remove the calkings (▲marks).



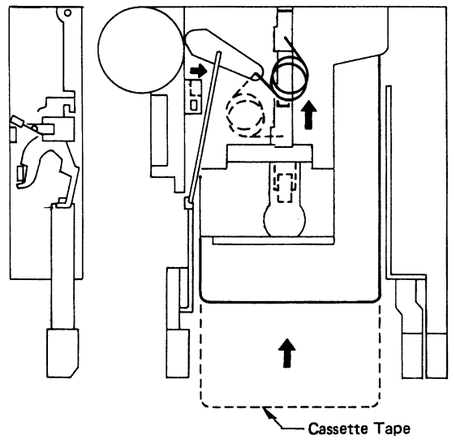
6. MAIN PCB (E-2133a) REMOVAL
- Melt the solder of main PCB, (★marks) then remove calkings.
- Melt the solder of P50. (Fig 1).



OPERATION OF CASSETTE DECK

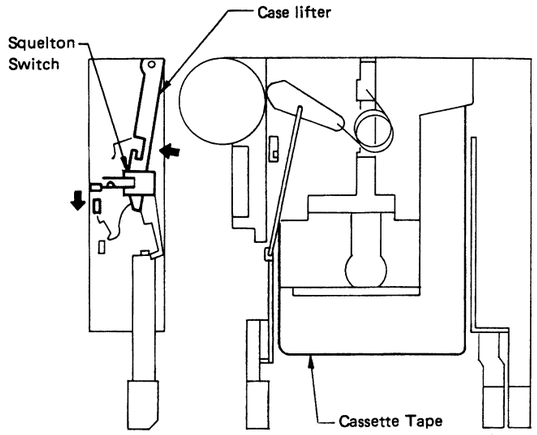
INSERTING

The cassette tape is inserted.



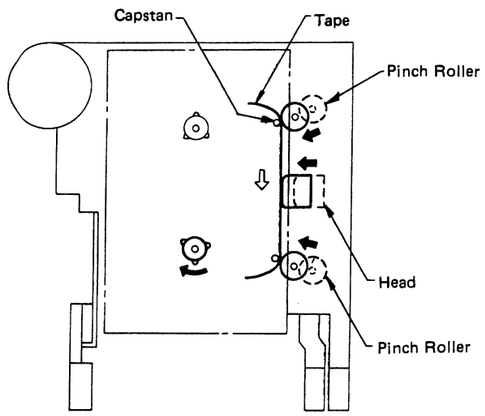
LOADING

The cassette tape is loaded and the DC motor starts to rotate.



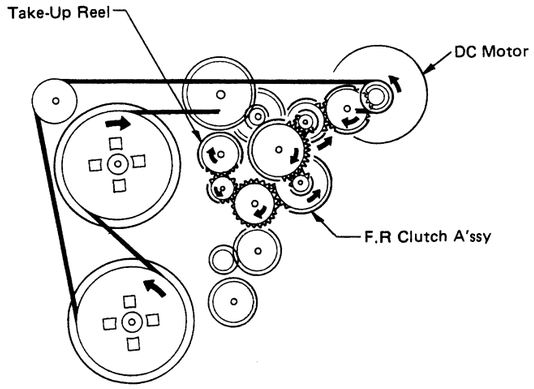
PLAYING

The head base sub ass'y is sloded and the tape reproduces.



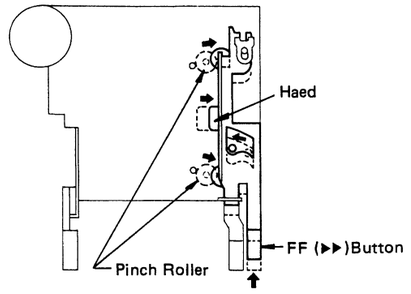
DRIVING

Cassette Deck Driving Mechanism.



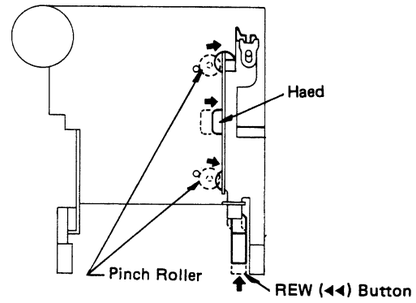
FF(▶▶)RUNNING

Depressing the FF(▶▶) Button, the Head and the Pinch Roller move to back.



REW(◀◀) RUNNING

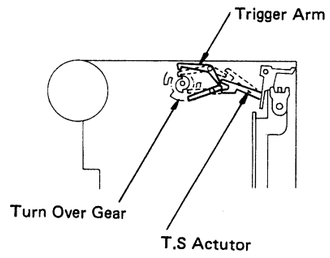
Depressing the REW(◀◀) Button, the Head and the Pinch Roller move to back.



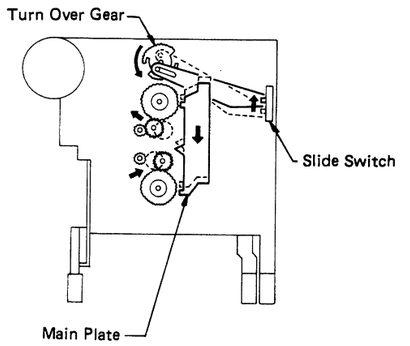
1

2 3

The trigger Arm takes off and half rotate the Turn Over Gear.

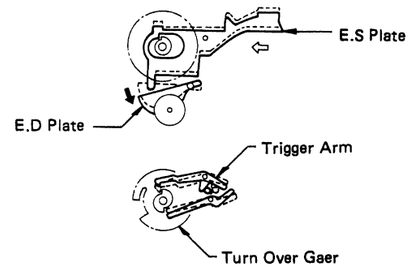


The Main Plate moves, and the Turn Over Gear touches the reverse gear of the Take-Up Reel Sub Ass'y.
The Slide Switch is reversed.



AT TAPE END

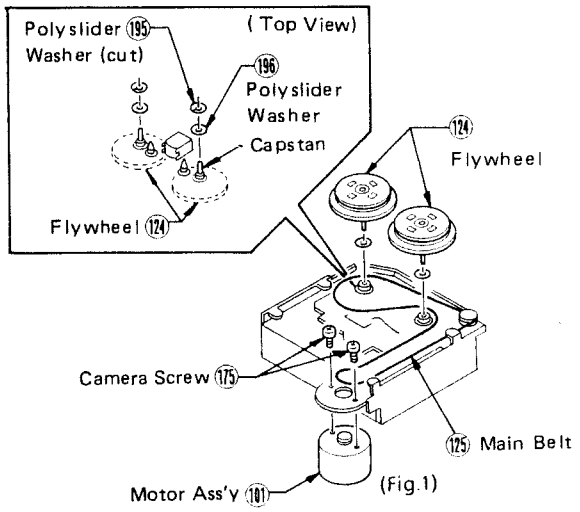
If the loading tape is end stopped, the Trigger Arm is took off for the move of theE.D Plate and half rotate the Turn Over Gear.
Then, the tape direction is reversed above 2 and 3 operation.



SERVICING HINT OF CASSETTE DECK

1. REPLACEMENT OF FLYWHEELS, DC MOTOR AND MAIN BELT

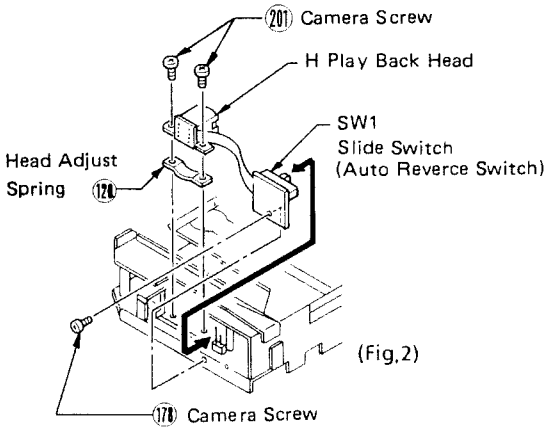
1) Remove the Polyslider Washer (195) (196) from the Capstans.
2) Remove the Main Belt (125).
3) Pull out the Flywheels (124).
4) Remove the Motor Ass'y (101) by two Camera Screws. (175)



(Fig.1)

2. REPLACEMENT OF PLAY BACK HEAD.

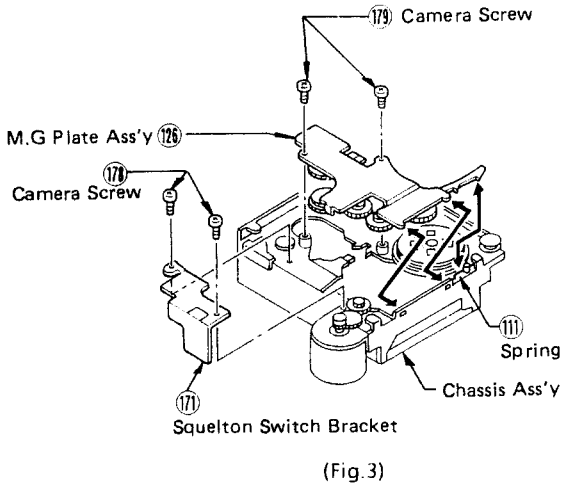
1) Remove the Slide Switch (1) (Auto Reverse Switch) by the Camera Screw (178).
2) Get back the Head. And remove the play Back Head by the Camera Screws (201).



(Fig.2)

3. M.G.PLATE ASS'Y DISASSEMBLY

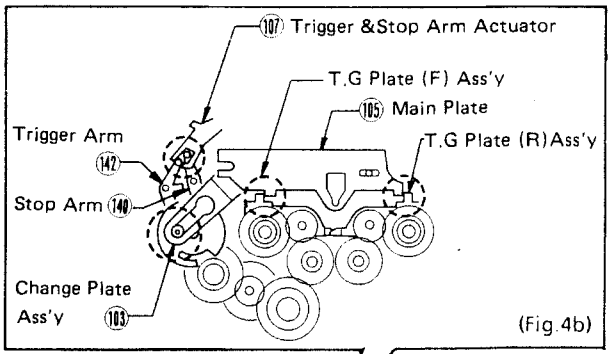
1) Remove the Squelton Switch Bracket (171) by two Camera Screws (178).
2) Remove the M.G Plate Ass'y (126) by two Camera Screws (179). (Fig.3)



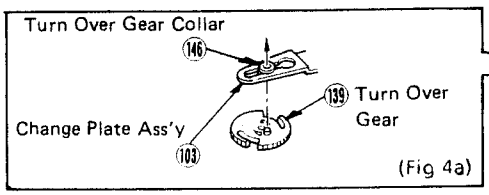
(Fig.3)

4. M.G PLATE ASS'Y INSTALLATION

1) Pass bosses of the M.G Plate Ass'y through square holes of the Chassis Ass'y.(Fig.3)
2) Insert the boss of the Turn Over Gear (139) into the hole of the Turn Over Gear Collar (146) which is placed in the groove of the Change Plate Ass'y (103). (Fig.4a)
3) Engage holes of the M.G Plate Ass'y with studs of the chassis Ass'y and slightly press them down, fix it with two Camera Screws (179). (Fig 3)
   Note: After installation, confirm the relation of position A~D in the Fig.4b.



(Fig.4b)



(Fig 4a)

Replacement Parts List
Models NO. CQ-H03EE/EG

NOTES :

1. Be sure to make your orders of replacement parts according to this list.
2. Important safety notice : Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Next to the Ref. No. in the parts list is a location key, to show the general location of the parts shown in the exploded drawing, as in a road map.
4. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.

MODELS CQ-H03EE/EG

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
MISCELLANEOUS					
⚠F1 (4-C)	XBB1C30NR1		Fuse, 3A	1	
Z51 (1-C)	YEAL02006		Neon Tube	1	
PL701, 702	YEAL01110		Pilot Lamp	2	
CN1 (2-C)	YEAE011351		20P Connector	1	
CN100 (2-B)	YEAEM2006S		5P Connector	1	
CN250 (2-C)	YEAEM2005S		Connector	1	
CP601(P) (2-B)	YEAE0106IWK		6P Connector	1	
CP602(P) (2-B)	YEAE0103IWK		3P Connector	1	
CP603(P) (2-B)	YEAE0103IWK		3P Connector	1	
1 (3-B)	YEAE011402		5P Connector	1	
2 (3-A)	YEAE011406		5P Connector	1	
3 (3-B)	YEFX0212713		Mounting Bracket for Deck	1	
4 ⊙	YEJS06027		⊕Screw	4	
5 ★	YEJT03081		⊕Screw, Taptight	1	
6 ⊛	XSB2 + 4FX		⊕Screw, Bind 2mmϕ × 4mm	1	
7 (3-A)	YEFE131841		Button, Eject	1	
8 (3-A)	YEFE131842		Button, FF	1	
9 (3-A)	YEFE131843		Button, REW	1	
10 (4-C)	YEFA03949A		Upper Cover	1	
11 (2-A)	YEFC022949A		Escutcheon Ass'y	1	
12 (2-A)	YEFE11071		Knob,BASS/TRE	2	
13 (1-B)	YEFE131844		Button, LOUD	1	
15 (2-A)	YEFE07389		Knob, VOL/BAL/Power	1	
16 (2-A)	YEFX0212714		Handle Ass'y	1	
17 (2-A)	YEFC05481		Handle Cover	1	
18 (1-A)	YEFC05482		Trim Plate	1	
19 (2-A)	YEFG09051		Mounting Bracket	1	
20 ☆	XSS5 + 8FX		⊕Screw, Flush 5mmϕ × 8mm	2	
21 (4-B)	YEFW02293B		Pin	1	
23 (4-B)	YEAJ02460		Extension Cord (Power/Speaker)	1	
24 ◈	YEJT03009		⊕Screw, Cuptight3mmϕ × 8mm	2	
25 (4-C)	YEFW02401		Specer	2	
26 (1-B)(2-A)	YEFK04404		Pilot Lamp Holder for PL701, 702	2	
27 (2-C)	YEFX0212732		Mounting Bracket for IC251	1	
28 (3-C)	YEFA08318		Rear Plate	1	
29 (2-C)	YEFA09254		Side Plate (R)	1	
30 (3-B)	YEFA09255A		Side Plate (L)	1	
31 (1-B)	YEFA05426A		Bottom Cover	1	
32 (2-B)	YEFX0212720A		Mounting Bracket for SW,VR	1	
33 (2-B)	YEFX0212721A		Mounting Bracket for CN1	1	
34 (1-B)	YEFX0212722		Mounting Bracket for LCD	1	
35 (1-B)	YEFX0212723		Mounting Base for LCD	1	
36 (1-B)	YEFX999732		Color Filter	1	
37 (1-B)	YEFX001899		Panel Light	1	
38 (1-C)	YEFV011112A		Insulator	1	
39	YEP0PT2133D0		PCB w/Component	1	NLA
40 ◉	XTB3 + 6FFX		⊕Screw 3mmϕ × 6mm	11	
41 (3-A)	YEFX0461041A		Lever for EJECT	1	
42 (1-C)	YEABCR2032H		Battery (Lithium)	1	
43 (1-C)	YEFK06371		Battery Holder	1	
44 ◆	YEJT03015		⊕Screw	3	
46 (2-A)	YEFS01817		Pad	2	
47 (2-B)	YEFA07215A		Front Plate	1	

EXPLODED VIEW (UNIT)

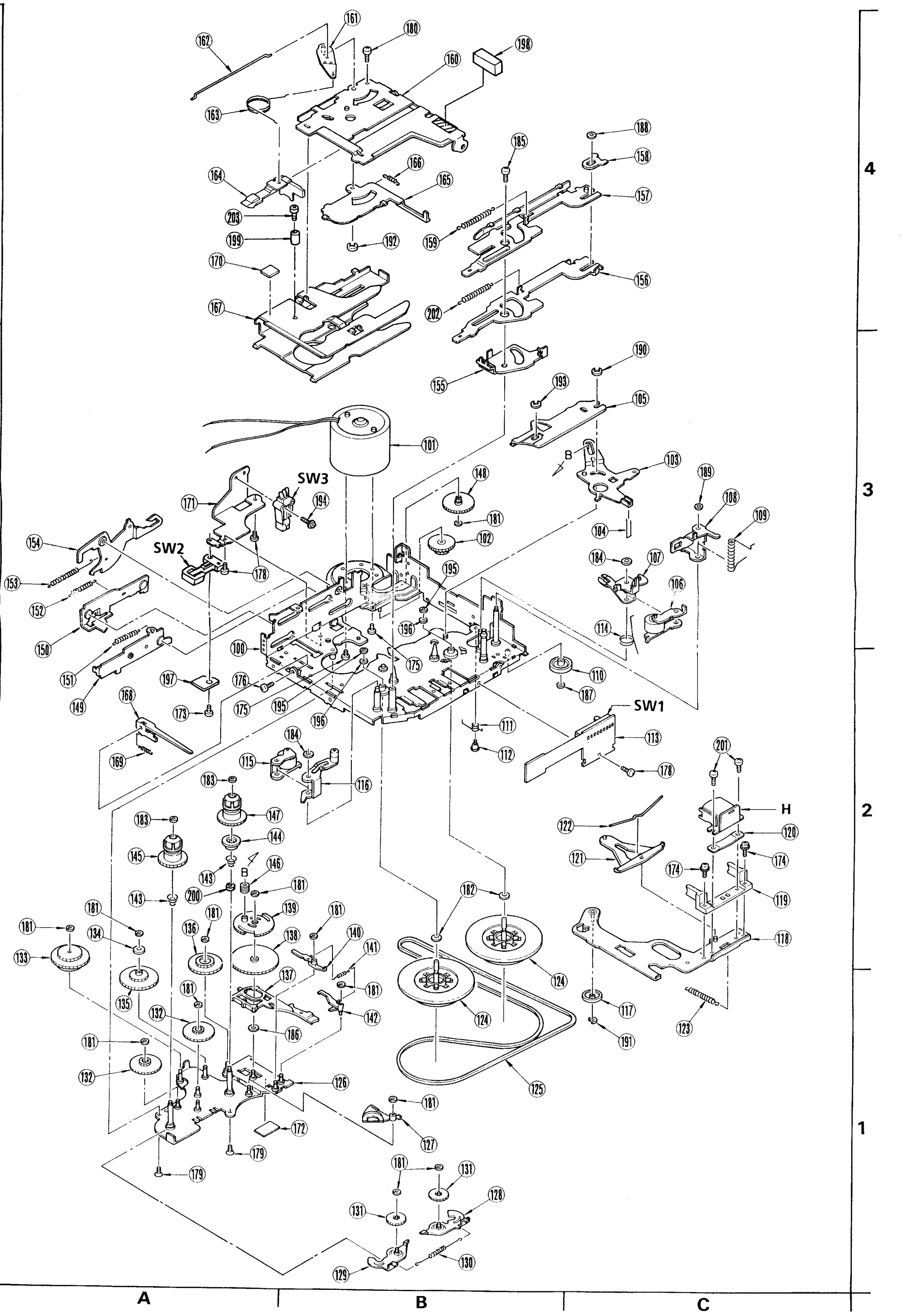
■ Numbers in ○ are indicated REF.No. in the REPLACEMENT PARTS LIST

■ The symbols next to the screws indicate as follows.

4	⊙	YEJS06027	⊕Screw	
5	★	YEJT03081	⊕Screw, Taptight	
6	✳	XTB2 + 4FX	⊕Screw, Bind	2mmϕ×4mm
20	☆	XSS5 + 8FX	⊕Screw, Flush	5mmϕ×8mm
24	◈	YEJT03009	⊕Screw, Cuptight	3mmϕ×8mm
40	◈	XTB3 + 6FFX	⊕Screw	3mmϕ×6mm
44	◆	YEJT03015	⊕Screw	

EXPLODED VIEW(TAPE DECK)

■ Numbers in ○ are indicated REF.No: in the REPLACEMENT PARTS LIST



CQ-H03EG/EE CQ-H03EG/EE

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
			PRINTINGS		
	YEFM281494		Instruction Book (English, French, Swedish, Detch, Italian)	1	CQ-H03EG only
	YEFM281495		Instruction Book (English)	1	CQ-H03EE only
			INSTALLATION PARTS		
A1	YEFX0212717		Quick Release Bracket	1	
A2	YEFG04010A		Rear Suport Strap	1	
A3	XVG5C25FX		Hex, Bolt (5mmφ×2.5mm)	1	
A4	XNG5AFX		Hex,Nut (5mmφ)	2	
A5	XWA5BFX		Spring Washer (5mmφ)	1	
A6	XWG5FX		Plan Washer (5mmφ)	2	
A7	XWC5CFX		Toothed Lock Washer (5mmφ)	1	
A8	YEJV01060		Mounting Bolt	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
			TAPE PLAYER PARTS 430 (9. 7. 63)		
			HEAD		
H (2-C)	YEAHR25PKF0		Head	1	
			SWITCHES		
SW1 (2-C)	YEAS07136		Auto Reverse Switch	1	
SW2 (3-A)	YEAS134C001		Muting Switch	1	
SW3 (3-B)	YEAS23152		Radio/Tape Selector	1	
			MECHANICAL PARTS		
100 (2-A)	YEFA011097		Chassis Ass'y	1	
101 (3-B)	YEAK01019		Motor Ass'y	1	
102 (3-B)	YEFX003317		Main Gear	1	
103 (3-C)	YEFX249339		Change Plate Ass'y	1	
104 (3-C)	YEFX005956		Head Switch Spring	1	
105 (3-C)	YEFA011014		Main Plate	1	
106 (3-C)	YEFX233268		Pinch Roller Arm (F) Ass'y	1	
107 (3-C)	YEFX013014		Trigger & Stop Arm Actuator	1	
108 (3-C)	YEFX249340		F.R (FF.REW) Lock Plate B	1	
109 (3-C)	YEFX0051286		F.R (FF.REW) Lock Spring	1	
110 (2-C)	YEFX026106A		Center Pulley (C)	1	
111 (2-B)	YEFX0051293		Control Spring (C)	1	
112 (2-B)	YEJS06061		Collar Screw	1	
113 (2-C)	YEAP1697		Head PCB	1	
114 (3-C)	YEFX0051287		Trigger & Stop Arm Actuator Spring	1	
115 (2-A)	YEFX233269		Pinch Roller Arm (R) Ass'y	1	
116 (2-C)	YEFX0212249		Pull Plate Ass'y	1	
117 (1-C)	YEFX026099		Head Plate Roller	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
118 (2-C)	YEFX0461025		Head Panel Ass'y	1	
119 (2-C)	YEFX239287		Tape Guide	1	
120 (2-C)	YEFX005961		Head Adjust Spring	1	
121 (2-C)	YEFX013013		Pinch Roller Actuator	1	
122 (2-C)	YEFX0051288		Pinch Roller Spring	1	
123 (1-C)	YEFX0051423		Head Panel Spring	1	
124 (1-C)	YEFX213191		Flywheel Ass'y	2	
125 (1-B)	YEFR03070		Main Belt	1	
126 (1-B)	YEFA011015		Main Gear Plate Ass'y	1	
127 (1-B)	YEFX046759		End Detector Plate (F)	1	
128 (1-B)	YEFX0461026		Take Up Gear Plate (F) Ass'y	1	
129 (1-B)	YEFX0461027		Take Up Gear Plate (R) Ass'y	1	
130 (1-B)	YEFX0051289		Take Up Gear Plate Spring	1	
131 (1-C)	YEFX003400		FF Gear	2	
132 (1-A)	YEFX003271A		FF & Take Up Gear	2	
133 (2-A)	YEFX026116		FF.REW Clutch Ass'y	1	
134 (2-A)	YEFX003272		Device Gear (Upper)	1	
135 (1-A)	YEFX003273		Device Gear (Lower)	1	
136 (2-A)	YEFX003274		Device & Trigger Stop Arm Gear	1	
137 (1-B)	YEFX0461028		End Sensing Plate	1	
138 (2-B)	YEFX003275B		Trigger & Stop Arm Actuator Gear	1	
139 (2-B)	YEFX003276		Turn Over Gear	1	
140 (2-B)	YEFX046765		Stop Arm	1	
141 (2-B)	YEFX0051290		Trigger & Stop Arm Spring	1	
142 (1-B)	YEFX0461029		Trigger Arm	1	
143 (2-A)	YEFX005967		End Detector spring	2	
144 (2-A)	YEFX026101		End Detector Piece	1	
145 (2-A)	YEFX209239		Take Up Reel Sub-Ass'y	1	
146 (2-A)	YEFX026102		Turn Over Gear Collar	1	
147 (2-A)	YEFX209240		Take Up Reel Sub-Ass'y	1	
148 (3-B)	YEFX003456		Center Gear (B)	1	
149 (2-A)	YEFX0461030		Push Lever Ass'y	1	
150 (2-A)	YEFX0461031		Cassette Case & Head Panel Push Plate Ass'y	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
151 (2-A)	YEFX005969		Push Lever Spring	1	
152 (3-A)	YEFX0051291		Cassette Case Head Panel Spring E	1	
153 (3-A)	YEFX005971		Lift Up Lever Spring	1	
154 (3-A)	YEFX046770		Lift Up Lever B	1	
155 (3-B)	YEFX0212250		FF.REW Bracket	1	
156 (4-C)	YEFX0461032		REW Lever	1	
157 (4-C)	YEFX0461033		FF Lever	1	
158 (4-C)	YEFX0461034		Program Changer Plate	1	
159 (4-B)	YEFX0051292		FF.REW Lever spring	2	
160 (4-B)	YEFA01757		Case Lifter	1	
161 (4-B)	YEFX0461035		Pack Eject Plate Ass'y	1	
162 (4-A)	YEFX005973		Pack Eject Spring	1	
163 (4-A)	YEFX005974B		Turn Over Spring	1	
164 (4-A)	YEFX0461020		Pack Slider	1	
165 (4-B)	YEFX046776		Cassette Detecting Plate	1	
166 (4-B)	YEFX005975		Cassette Detecting Spring	1	
167 (4-A)	YEFA01758		Cassette Case	1	
168 (2-A)	YEFX046777		Timing Plate	1	
169 (2-A)	YEFX005976		Spring	1	
170 (4-A)	YEFS01404		Cushion Rubber	1	
171 (3-A)	YEFX0461036		Switch Bracket (SW3)	1	
172 (1-B)	YEFS02090		Cushion Felt	1	
173 (2-A)	YEJS06055		Camera Screw Flush 1.7×3.5	1	
174 (2-C)	YEJS06056		⊕Screw w/washer 2.0×5	2	
175(2-A)(2-B)	YEJS06099		Camera Screw, Flat 2.0×2.5	2	
176 (2-A)	YEJS06057		Camera Screw 2.0×2	1	
178(2-C)(3-A)	YEJS06058		Camera Screw, Tapping 2.0×3	3	
179 (1-A)	YEJS06059		Camera Screw, Flat 2.0×3.5	2	
180 (4-B)	YEJS06060		Camera screw, Tapping 2.0×4	1	
181	YEJW05043		Polyslider 1.2×3.0×0.25	12	
182 (2-B)	YEJW05044		Polyslider 2.1×0.5×0.13	2	
183 (2-A)	YEJW05045		Polyslider 1.6×3.4×0.3	2	
184(2-B)(3-C)	YEJW05046		Polyslider 2.1×5.0×0.4	2	
185 (4-B)	YEJS06075		Camera Screw 2.6×4.5	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
186 (1-B)	YEJW04028		Polyslider 3.1×4.8×0.1	1	
187 (2-C)	YEJW05055		Polyslider 0.85×2.8×0.25	1	
188 (4-C)	YEJW05078		Polyslider 3.0×6.0×0.4	1	
189 (3-C)	YEJW05053		Polyslider 1.6×3.8×0.3	1	
190 (3-C)	YEFX014028		E Ring (B) Special 1.5	1	
191 (1-C)	YEFX014029		E Ring 1.2	1	
192 (4-B)	YEFX014030		E Ring 1.5	1	
193 (3-B)	YEFX014031		E Ring 2.0	1	
194 (3-B)	YEJS06103		⊕Screw w/washer 2.0×8	1	
195(2-A)(3-B)	YEJW05079		Polyslider 1.5×3.2×0.5	2	
196(2-B)(3-B)	YEJW05080		Polyslider 1.8×3.2×0.2	2	
197 (2-A)	YEAP1802		Switch PCB	1	
198 (4-B)	YEFS01825		Cushion	1	
199 (4-A)	YEFW07141		C Stopper	1	
200 (2-A)	YEJW05081		Polyslider 3.6×5×0.13	1	
201 (2-C)	YETS06105		Camera Screw 2.0×3	1	
202 (4-B)	YEFX005142		FR Lever Spring	1	
203 (4-A)	YEJS06102		Camera Screw 2.0×2.5	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
ICs & TRANSISTORS					
P50	YEAU03SUE02		FM Front End Package	1	
P101	YEAU03SKM03A		AM Package	1	
IC150	YEAMLA1145M		FM IF Amp	1	
IC200	YEAMLA3161		Tape EQ Amp	1	
IC251	YEAMHA13108		AF Power Amp	1	
IC500	YEAMSTK3400M		FM MPX / PNL	1	
IC600	YEAM1713A603		LSI	1	
Q202	YEAN2SC2785		Buffer Amp	1	
Q221	YEAN2SC2785		Mute	1	
Q302	YEAN2SC2785		Buffer Amp	1	
Q321	YEAN2SC2785		Mute	1	
Q500	YEANBN1A4M		ST Indicator	1	
Q605	YEAN2SK583		Low Pass Filter	1	
Q613	YEAN2SA1175		Mute	1	
Q630 to 635	YEAN2SC2785		Key Matrix	6	
Q703	YEAN2SD1020		Voltage Regulator	1	
Q706	YEAN2SD2007		Voltage Regulator	1	
Q707, 708	YEAN2SC2785		Band AM/FM Switch	2	
Q709, 710	YEAN2SB810		Power Control	2	
DIODES					
D107	MA150			1	
D108	YEAD1SS133			1	
D201	YEAD1SS133			1	
D301	YEAD1SS133			1	
D551, 552	MA150			2	
D553, 554	YEAD1SS133			2	
D601,602	YEADRD51JS3		Zener Diode (5.1V)	2	
D603	MA1100		Zener Diode (10V)	1	
D610 to 616	YEAD1SS133			7	
D625	YEAD1SS133			1	
D630	MA150			1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
D631 to635	YEAD1SS133			5	
D701	YEADDSM1A2			1	
D703	YEAD1SS133			1	
D704	MA700			1	
D706	YEADRD56JS3		Zener Diode (5.6V)	1	
D708	YEADRD91EB2		Zener Diode (9.1V)	1	
			CAPACITORS		
C60	ECEA1HU010		1MFD 50WV Electrolytic	1	
C61	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C62	YEU05SL8R2K		8.2PF 50WV Ceramic	1	
C63	ECEA1CK100		10MFD 16WV Electrolytic	1	
C65	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C66	YEU05SL8R2K		8.2PF 50WV Ceramic	1	
C132	ECEA1AKA221		220MFD 10WV Electrolytic	1	
C151	ECBT1H560J		56PF 50WV Ceramic	1	
C152	ECEA1CKS100		10MFD 16WV Electrolytic	1	
C153	YECCP1E223KB		0.022MFD 25WV Ceramic	1	
C154	ECEA1CKS100		10MFD 16WV Electrolytic	1	
C155	ECEA1HKS0R1		0.1MFD 50WV Electrolytic	1	
C156	YECCP1E223KB		0.022MFD 25WV Ceramic	1	
C157	ECBT1H101KB		100PF 50WV Ceramic	1	
C158	YECCP1E223KB		0.022MFD 25WV Ceramic	1	
C159	ECEA1HU0R1		0.1MFD 50WV Electrolytic	1	
C160	YECCP1E223KB		0.022MFD 25WV Ceramic	1	
C161	ECEA1AK220		22MFD 10WV Electrolytic	1	
C162	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C163	ECQV1H333JZ		0.033MFD 50WV Polyester	1	
C201	ECBT1C122MR		0.0012MFD 16WV Ceramic	1	
C202	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C203	ECEA0JKS101		100MFD 6.3WV Electrolytic	1	
C204	YECCP1E273KB		0.027MFD 25WV Ceramic	1	
C225	YECCP1E393KB		0.039MFD 25WV Ceramic	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C226	YECCD12204M		0.2MFD 12WV Ceramic	1	
C227	ECBT1C682MR		0.0068MFD 16WV Ceramic	1	
C228	YECCP1E333KB		0.033MFD 25WV Ceramic	1	
C230	ECEA1HUR33		0.33MFD 50WV Electrolytic	1	
C231	ECBT1C472MR		0.0047MFD 16WV Ceramic	1	
C236	ECEA0JKS470		47MFD 6.3WV Electrolytic	1	
C240, 241	ECEA1HKS010		1MFD 50WV Electrolytic	2	
C251	ECQV1H104JZ		0.1MFD 50WV Ceramic	1	
C252	ECEA0JU101		100MFD 6.3WV Electrolytic	1	
C256	ECEA1CK101		100MFD 16WV Electrolytic	1	
C257	ECEA1CU102		1000MFD 16WV Electrolytic	1	
C259	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C260	ECBT1H102KB		0.001MFD 50WV Ceramic	1	
C267	ECEA1CFE272L		2700MFD 16WV Electrolytic	1	
C301	ECBT1C122MR		0.0012MFD 16WV Ceramic	1	
C302	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C303	ECEA0JKS101		100MFD 6.3WV Electrolytic	1	
C304	YECCP1E273KB		0.027MFD 25WV Ceramic	1	
C307	ECEA1AU331		330MFD 10WV Electrolytic	1	
C325	YECCP1E393KB		0.039MFD 25WV Ceramic	1	
C326	YECCD12204M		0.2MFD 12WV Ceramic	1	
C327	ECBT1C682MR		0.0068MFD 16WV Ceramic	1	
C328	YECCP1E333KB		0.033MFD 25WV Ceramic	1	
C330	ECEA1HUR33		0.33MFD 50WV Electrolytic	1	
C331	ECBT1C472MR		0.0047MFD 16WV Ceramic	1	
C338, 339	ECEA1CK101		100MFD 16WV Electrolytic	2	
C340	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C349	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C351	ECQV1H104JZ		0.1MFD 50WV Ceramic	1	
C352	ECEA0JU101		100MFD 6.3WV Electrolytic	1	
C356	ECEA1CU101		100MFD 16WV Electrolytic	1	
C357	ECEA1CU102		1000MFD 16WV Electrolytic	1	
C359	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C360	ECBT1C102KB		0.001MFD 16WV Ceramic	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
C367	ECEA1AU470		47MFD 10WV Electrolytic	1	
C501	ECBT1C332MR		0.0033MFD 16WV Ceramic	1	
C502	ECEA1AKS220		22MFD 10WV Electrolytic	1	
C503	ECEA1CKS100		10MFD 16WV Electrolytic	1	
C504	ECQV1H333JZ		0.033MFD 50WV Polyester	1	
C505	ECBT1H121KB		120PF 50WV Ceramic	1	
C506	ECBT1C332MR		0.0033MFD 16WV Ceramic	1	
C507	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C508	ECEA1HKSR47		0.47MFD 50WV Electrolytic	1	
C509	ECEA1VKS4R7		4.7MFD 35WV Electrolytic	1	
C510	ECEA1HKS0R1		0.1MFD 50WV Electrolytic	1	
C511	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C562	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C601	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C603	ECEA1VKS4R7		4.7MFD 35WV Electrolytic	1	
C604	ECEA0JKS470		47MFD 6.3WV Electrolytic	1	
C605	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C606, 607	ECBT1H220J		22PF 50WV Ceramic	2	
C610	ECEA0JKS101		100MFD 6.3WV Electrolytic	1	
C611	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C612	ECEA1AKS221		220MFD 10WV Electrolytic	1	
C614	ECQV1H393JZ		0.039MFD 50WV Polyester	1	
C616	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C617	ECQV1H333JZ		0.033MFD 50WV Polyester	1	
C618	ECBT1C103NS		0.01MFD 16WV Ceramic	1	
C624	ECEA1VKS4R7		4.7MFD 35WV Electrolytic	1	
C703	ECEA1HKS010		1MFD 50WV Electrolytic	1	
C706	YECKD05103Z		0.01MFD 50WV Ceramic	1	
C715	ECEA1CU221		220MFD 16WV Electrolytic	1	
C720	ECEA1AU330		33MFD 10WV Electrolytic	1	
CS701	YECCL55S222T		2200PF Feedthrough	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
			RESISTORS		
R55	ERD25TJ333		33k ohms 1/4W Carbon	1	
R56	ERDS2TJ151		150 ohms 1/4W Carbon	1	
R57	ERDS2TJ183		18k ohms 1/4W Carbon	1	
R120	ERDS2TJ123		12k ohms 1/4W Carbon	1	
R150	ERDS2TJ101		100 ohms 1/4W Carbon	1	
R151	ERD25TJ101		100 ohms 1/4W Carbon	1	
R152	ERDS2TJ471		470 ohms 1/4W Carbon	1	
R153	ERDS2TJ331		330 ohms 1/4W Carbon	1	
R154	ERDS2TJ223		22k ohms 1/4W Carbon	1	
R155	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R156	ERDS2TJ473		47k ohms 1/4W Carbon	1	
R157	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R158	ERDS2TJ123		12k ohms 1/4W Carbon	1	
R159	ERDS2TJ562		5.6k ohms 1/4W Carbon	1	
R160,161	ERDS2TJ103		10k ohms 1/4W Carbon	2	
R162	ERDS2TJ563		56k ohms 1/4W Carbon	1	
R163	ERDS2TJ363		36k ohms 1/4W Carbon	1	
R201	ERDS2TJ333		33k ohms 1/4W Carbon	1	
R202	ERDS2TJ470		47 ohms 1/4W Carbon	1	
R203	ERDS2TJ472		4.7k ohms 1/4W Carbon	1	
R204	ERDS2TJ124		120k ohms 1/4W Carbon	1	
R205	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R214	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R215	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R216	ERDS2TJ224		220k ohms 1/4W Carbon	1	
R217	ERDS2TJ101		100 ohms 1/4W Carbon	1	
R225	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R226	ERDS2TJ182		1.8k ohms 1/4W Carbon	1	
R230	ERDS2TJ105		1M ohms 1/4W Carbon	1	
R231	ERDS2TJ153		15k ohms 1/4W Carbon	1	
R232	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R233	ERD25TJ221		220 ohms 1/4W Carbon	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R234	ERD25TJ182		1.8k ohms 1/4W Carbon	1	
R235	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R236	ERDS2TJ5R6		5.6 ohms 1/4W Carbon	1	
R243	ERDS2TJ102		1kohms 1/4W Carbon	1	
R251	ERDS2TJ2R2		2.2 ohms 1/4W Carbon	1	
R252	ERDS2TJ820		82 ohms 1/4W Carbon	1	
R301	ERDS2TJ333		33k ohms 1/4W Carbon	1	
R302	ERDS2TJ470		47 ohms 1/4W Carbon	1	
R303	ERDS2TJ472		4.7k ohms 1/4W Carbon	1	
R304	ERDS2TJ124		120k ohms 1/4W Carbon	1	
R305	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R309	ERDS2TJ471		470 ohms 1/4W Carbon	1	
R314	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R315	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R316	ERDS2TJ224		220k ohms 1/4W Carbon	1	
R317	ERDS2TJ101		100 ohms 1/4W Carbon	1	
R325	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R326	ERDS2TJ182		1.8k ohms 1/4W Carbon	1	
R330	ERDS2TJ105		1M ohms 1/4W Carbon	1	
R331	ERDS2TJ153		15k ohms 1/4W Carbon	1	
R332	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R333	ERD25TJ221		220 ohms 1/4W Carbon	1	
R334	ERD25TJ182		1.8k ohms 1/4W Carbon	1	
R335	ERDS2TJ122		1.2k ohms 1/4W Carbon	1	
R336	ERD25TJ391		390 ohms 1/4W Carbon	1	
R343	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R351	ERDS2TJ2R2		2.2 ohms 1/4W Carbon	1	
R352	ERDS2TJ820		82 ohms 1/4W Carbon	1	
R501	ERDS2TJ562		5.6k ohms 1/4W Carbon	1	
R502	ERDS2TJ473		47k ohms 1/4W Carbon	1	
R503	ERDS2TJ223		22k ohms 1/4W Carbon	1	
R504	ERD25TJ393		39k ohms 1/4W Carbon	1	
R505	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R507, 508	ERDS2TJ561		560 ohms 1/4W Carbon	2	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
R510	ERDS2TJ394		390k ohms 1/4W Carbon	1	
R511	ERDS2TJ683		68k ohms 1/4W Carbon	1	
R512	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R551	ERDS2TJ183		18k ohms 1/4W Carbon	1	
R552	ERDS2TJ561		560 ohms 1/4W Carbon	1	
R600	ERDS2TJ823		82k ohms 1/4W Carbon	1	
R606	ERDS2TJ152		1.5k ohms 1/4W Carbon	1	
R610	ERDS2TJ152		1.5k ohms 1/4W Carbon	1	
R612	ERDS2TJ181		180 ohms 1/4W Carbon	1	
R613	ERDS2TJ681		680 ohms 1/4W Carbon	1	
R616	ERDS2TJ471		470 ohms 1/4W Carbon	1	
R619	ERDS2TJ152		1.5k ohms 1/4W Carbon	1	
R620	ERDS2TJ472		4.7k ohms 1/4W Carbon	1	
R621	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R622	ERDS2TJ473		47k ohms 1/4W Carbon	1	
R623	ERDS2TJ472		4.7k ohms 1/4W Carbon	1	
R624	ERDS2TJ222		2.2k ohms 1/4W Carbon	1	
R630 to 635	ERD25TJ105		1M ohms 1/4W Carbon	6	
R670	ERDS2TJ104		100k ohms 1/4W Carbon	1	
R700	ERD25FJ1R0		1 ohm 1/4W Carbon	1	
R701	ERDS2TJ101		100 ohms 1/4W Carbon	1	
R704	ERDS2TJ472		4.7k ohms 1/4W Carbon	1	
R708	ERDS2TJ103		10k ohms 1/4W Carbon	1	
R709	ERDS2TJ221		220 ohms 1/4W Carbon	1	
R710	ERD25TJ473		47k ohms 1/4W Carbon	1	
R711	ERDS2TJ333		33k ohms 1/4W Carbon	1	
R712	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R713	ERDS2TJ224		220k ohms 1/4W Carbon	1	
R714	ERDS2TJ473		47k ohms 1/4W Carbon	1	
R715	ERDS2TJ102		1k ohms 1/4W Carbon	1	
R720	ERD25FJ2R7		2.7 ohms 1/4W Carbon	1	
R721	ERDS2TJ103		10k ohms 1/4W Carbon	1	

Ref. No.	Part No.	Part Code	Part Name & Description	Pcs set	Remarks
SWITCHES					
SW201	YEAS09125		Loudness Switch	1	
SW601 to 610	YEAS09199		Preset Switch	10	
CRYSTALS					
XL500	YEXLS456F15M		Crystal	1	
XL600	YEXL49U0450T		Crystal	1	
COILS, CERAMIC FILTERS & IFTs					
L701	YETQ020F096A		Choke Coil	1	
IFT151	YEIF07S7097M		FM IFT	1	
CF151	YEIN09NM11FT		FM Cermic Filter	1	
VARIABLE RESISTORS					
VR201, 301	YEVK092K02		100k ohms Bass Control	1	
VR202, 302	YEVK092K02		100k ohms Treble Control	1	
VR203, 303	YEVK1251311		100k ohms Volume Control	1	
204			100k ohms Balance Control		
w/SW701			Power Switch		
LCD					
LCD1	YEXDCM875A		LCD	1	